

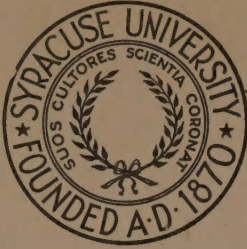
C# 090076480

91372
FWLA7

SYRACUSE UNIVERSITY



3 2911 02535028 1



LIBRARY

[REDACTED]



20-
scat
942

Publ@60-
o.p.

SYRACUSE
UNIVERSITY

E. S. BIRD LIBRARY

DATE LOANED DUE

Mar 21 '47 H

Nov 26 '47

Apr 5 '49 I

Apr 6 '49 S

Apr 7 '50 T

Nov 19 '51 M

Dec 3 '52 C

~~Dec 20 '66~~

~~18 MAR 70 LT~~

~~APR 1971 ARS~~

MAYAN
AND
MEXICAN
ORIGINS

MAYAN AND MEXICAN ORIGINS



BY LEO WIENER
PROFESSOR OF
SLAVIC LANGUAGES AND LITERATURES
AT HARVARD UNIVERSITY



CAMBRIDGE
PRIVATELY PRINTED
MCMXXVI

UNIVERSITY OF MICHIGAN
LIBRARY

Copyright, 1926, by Leo Wiener.

CONTENTS

LIST OF ILLUSTRATIONS	vii
LIST OF MAPS	xxiii
FOREWORD	xxv
I. INTRODUCTION	1
II. THE PHILOLOGICAL HISTORY OF NAHUATL <i>atl</i>	38
III. THE PHILOLOGICAL HISTORY OF NAHUATL <i>olin</i>	44
IV. THE EVOLUTION OF THE GLYPH <i>atl</i>	49
V. THE EVOLUTION OF THE GOD <i>Tlalok</i>	56
VI. THE GOD <i>Ketsalkowatl</i>	61
VII. <i>Tonakatekutli</i> AND THE GOD OF THE MERCHANTS	74
VIII. THE MAYAN WATER GLYPHS	84
IX. THE BLACK GOD	98
X. THE PHILOLOGICAL HISTORY OF MAIZE	106
XI. THE CROCODILE	121
XII. THE THIRTEEN LORDS OF THE DAY	130
XIII. THE JAGUAR	136
XIV. THE PHILOLOGICAL HISTORY OF NAHUATL <i>ton</i>	143
XV. <i>Tun</i> AND <i>Qatun</i> IN THE MAYAN CHRONICLES	148
WORD INDEX	173
SUBJECT INDEX	193
PLATES	I—CXXXVI

313475

ILLUSTRATIONS

PLATE I.

1. Representations of rain in Sahagun's *Historia de las cosas de España*: a) for the sign *atl*, p. 35; b) for the sign *kiawitl*, p. 35; c) from the sky, p. 25; d) as a rain god, pl. 12; e) as a digitate cloud formation, in Codex Vaticanus No. 3773, p. 2r.
2. Sky with sun, moon, and *tonalamatl* formation and descending rain (human forms omitted), in Codex Nuttall, p. 2.

PLATE II.

3. Representation of rain, in inscriptions at Copan, from Maudsley's *Archæologia centro-americana*: a) rain descending in drops, p. 68; b) with schematic sky, *ibid.*; c) assuming the semblance of a face, *ibid.*; d) with the sign *tun*, *ibid.*; e, f) rain from the schematic sky, *ibid.*
4. Conventional fire rain, in Codex Vaticanus No. 3773: a) with arrow, shield, stone, cross bones, and death descending, p. 69; b) with imbricated sun design, *ibid.*

PLATE III.

5. Conventionalized fire rain, in Codex Borgia, p. 27.
6. Maya representation of the sky with cross bones, commotion, and night, in Codex Tro-Cortesianus: a) p. 40, b) p. 41.
7. Fire water descending from the sun: a) in Codex Borgia, p. 2; b) in Codex Vaticanus No. 3773, p. 11; c) *ibid.*, p. 3.

PLATE IV.

8. Water in the Tula relief of the Malinche Hill, with shell appendages, from Peñafiel, *Monumentos del arte mexicano antiguo*, pl. 154.

PLATE V.

9. "Water" in Aztec geographical names represented by parallel lines, in Peñafiel, *Catalogo alfabético de los nombres de lugar pertenecientes al idioma nahuatl*.
10. "Water" topped by the glyph, in geographical names, *ibid.*
11. Water, in Codex Fejérváry-Mayer, with rippling edge: a) p. 3; b) in digitate form, p. 27; c) with bivalve and shell, p. 33; d) p. 4.
12. "Water" glyphs, in Codex Fejérváry-Mayer, represented by a rippling in the vessel: a) p. 8, b) p. 44; changes into semblance of a bird: c) p. 20, d) p. 17, e) p. 28, f) p. 27, g) p. 23; with the aspect of a hand: h) p. 35, i) p. 41, j) p. 37, k) p. 36, l) p. 23; with shell eye: m) p. 35, n) p. 33, o) p. 40, p) p. 39, q) p. 39, r) p. 38.

PLATE VI.

13. Water, in Codex Nuttall, with fishes, snakes, crabs, and shells: a) p. 16, b) p. 36, c) p. 43, d) p. 49.

PLATE VII.

14. Water, with fish, snake, crocodile, and shells, in Codex Nuttall, p. 75.

PLATE VIII.

15. Water, as a blue field with alternating black lines, in Codex Nuttall: a) p. 64; with "water" glyph and shells: b) p. 64, c) p. 9, d) p. 69; with double shells: e) p. 49, f) p. 33, g) p. 23, h) p. 22.

PLATE IX.

16. "Water" glyphs, in Codex Nuttall: a) p. 34, b) p. 25, c) p. 24, d) p. 42, e) p. 35, f) p. 66, g) p. 53, h) p. 11, i) p. 11, j) p. 77, k) p. 69, l) p. 72, m) p. 32, n) p. 13, o) p. 11.
 17. "Water" glyphs, in Codex Borgia: a) p. 18, b) p. 21, c) p. 17, d) p. 1, e) p. 4, f) p. 26, g) p. 13.
 18. Water and "water" glyphs, in *Tonalamatl* of Aubin Collection: a) p. 5, b) p. 18, c) p. 6, d) p. 4, e) p. 3, f) p. 21, g) p. 18.

PLATE X.

19. Water and "water" glyphs, in Codex Borbonicus: a) p. 15, b) p. 12, c) p. 12, d) p. 3; in Codex Telleriano-Remensis: e) p. 8r., f) p. 9v., g) p. 41r.; in Codex Bologna: h) p. 1, i) p. 3, j) p. 4, k) p. 5, l) p. 6, m) p. 8.
 20. The moon vessel: a) in Codex Magliabecchiano, p. 4v.; b) with hare inside, in Codex Vaticanus No. 3773, p. 29.
 21. Moon vessel with obsidian knife, in Codex Borgia: a) p. 18, b) p. 58.

PLATE XI.

22. Obsidian knife, hare, and moon god, in Codex Vaticanus No. 3773, p. 54.
 23. The same, in Codex Borgia, p. 66.

PLATE XII.

24. Moon goddess with *teksistli*, in Codex Borgia, p. 11.
 25. The same, in Codex Vaticanus No. 3773, p. 30.
 26. Conventionalized moon, in Codex Nuttall, p. 14.
 27. The sky with sun and moon device, in Codex Nuttall, p. 21.

PLATE XIII.

28. "Star eye," from Seler, *Abhandlungen*, vol. I, p. 663: a) in Vienna MS., b) at Mitla.
 29. Moon device, in Codex Nuttall, p. 33.
 30. Starred sky with moon device, *ibid.*, p. 75.
 31. Moon device with "fire" sign, *ibid.*, p. 16.
 32. Imbricated sky design with pitcher, in Codex Fejérváry-Mayer, p. 36.
 33. Moon device, in Codex Borgia: a) p. 31, b) p. 40.
 34. Moon device with "death," in Codex Nuttall, p. 10.

PLATE XIV.

35. Snake cut by arrow, in Codex Borgia, p. 9.
 36. Snake swallowing snake, and lightning, *ibid.*, p. 20.
 37. Snakes descending from the sky, *ibid.*: a) p. 3, b) p. 5.

38. *Tlalok* with snake, in Codex Vaticanus No. 3773, p. 43.

39. Descent of snake into bowl, *ibid.*: a) p. 5, b) p. 6.

PLATE XV.

40. *Tlalok*, in the Aubin Collection, attached to Duran's *Historia de las Indias de Nueva España*, p. 15.

PLATE XVI.

41. *Akatl*, "bundle of arrows," in Codex Nuttall: a) p. 38, b) p. 34, c) p. 9, d) p. 53, e) p. 69, f) p. 46, g) p. 56, h) p. 41; in Codex Fejérváry-Mayer: i) p. 40, j) p. 29, k) p. 24, l) p. 12; in *Tonalamatl* of Aubin Collection: m) p. 20, n) p. 12, o) p. 5, p) p. 3.

42. *Been*, "bundle of arrows," in Maya, from Bowditch, *Numeration . . . of the Mayas*.

43. *Tlalok* on the crocodile, in Codex Fejérváry-Mayer, p. 4.

44. *Tlalok* as a blue god, *ibid.*, p. 26.

PLATE XVII.

45. *Tlalok* and the maize plant, in Codex Fejérváry-Mayer, p. 34.

46. *Tlalok* with striped garment, *ibid.*, p. 36.

47. Mayan *Čak* corresponding to *Tlalok*, in Codex Tro-Cortesianus, p. 73.

PLATE XVIII.

48. The glyph *kiawitl*, in Codex Fejérváry-Mayer: a) p. 41, b) p. 34, c) p. 20, d) p. 7.

49. Full-faced *Tlalok*, in Codex Nuttall, p. 72.

50. Full-faced *Tlalok* with fangs, *ibid.*, p. 62.

51. The glyph *kiawitl*, in Codex Nuttall: a) p. 20, b) p. 8, c) p. 7, d) p. 37, e) p. 35, f) p. 33.

52a). *Tlalok*, in Codex Telleriano-Remensis, p. 4r.

PLATE XIX.

52b). *Tlalok*, in Codex Telleriano-Remensis, p. 5v.; c) in *Tonalamatl* of Aubin Collection, p. 7.

53. Glyph *kiawitl*, in Codex Telleriano-Remensis: a) p. 24r, b) p. 23v.; in *Tonalamatl* of Aubin Collection: c) p. 3, d) p. 3.

PLATE XX.

54. *Tlalok* on pottery, at Castillo de Teayo, from Seler, *Abhandlungen*, vol. III, p. 435.

55. The same: a-c), *ibid.*, vol. II, p. 433, d, e), *ibid.*, p. 434.

PLATE XXI.

56. The same, at Quen Santo, from Seler, *Abhandlungen*, vol. II: a) p. 254, b) p. 256.

57. The same, at Tlaxcala, *ibid.*, p. 394.

PLATE XXII.

58. The same, from the Royal Museum of Ethnology at Berlin, from Seler, *Abhandlungen*, vol. II, p. 314.

59. The same: a, b) from the Museum at Vienna, *ibid.*, p. 110; c) from the Calle de las Escarillas, *ibid.*, p. 855; d, e) from the Royal Museum at Berlin, from Seler, *Codex Borgia*, vol. I, p. 109.
60. The same, from Gamio, *La poblacion del valle de Teotihuacan*, vol. I, p. 278.

PLATE XXIII.

61. Aquarius pouring water from pitchers, from Budge, *The Gods of the Egyptians*, vol. II, p. 315.
62. *Tlalok* pouring water from a jar, in Codex Nuttall, p. 5.
63. *Tlalok* and the *olin* jar, in Codex Magliabecchiano, p. 89.
64. The glyph *olin*, in Codex Nuttall: a) p. 20, b) p. 16, c) p. 4, d) p. 4, e) p. 54, f) p. 51, g) p. 30, h) p. 22, i) p. 4, j) p. 80; in *Tonalamatl* of Aubin Collection: k) p. 8, l) p. 6, m) p. 5; in Codex Borgia: n) p. 21, o) p. 67, p) p. 21, q) p. 14.

PLATE XXIV.

65. The Mayan glyph *Kaban*, from Bowditch.
66. Rain as *kaban* descending from the sky, in Codex Dresden: a) p. 54, b) p. 55, c) p. 57, d) p. 52.
67. *Ketsalkowatl* with the long nose, from *Anales del Museo Nacional de Mexico*, segunda epoca, vol. I, pl. 12.

PLATE XXV.

68. The same, with the *oselokopilli*, in Codex Magliabecchiano, p. 61.

PLATE XXVI.

69. The same, with moon and star device, in Codex Magliabecchiano, p. 62.
70. The same, in Codex Fejérváry-Mayer, p. 24.
71. The same, as *Yakatekutli*, *ibid.*, p. 36.

PLATE XXVII.

72. The same, with large shell, in Codex Vaticanus No. 3773, p. 21.
73. The same, *ibid.*, p. 39.
74. The same, with five-cornered shell, *ibid.*, p. 62.

PLATE XXVIII.

75. The same, with bishop's staff, in Sahagun's MS., from Peñafiel, *Monumentos del arte mexicano antiguo*, p. 90.

PLATE XXIX.

76. The glyph *ehekatl*, in *Tonalamatl* of Aubin Collection: a) p. 11, b) p. 10, c) p. 7, d) p. 4; in Codex Nuttall: e) p. 52, f) p. 28, g) p. 18, h) p. 18, i) p. 18; in Codex Borbonicus: j) p. 5, k) p. 10, l) p. 11; in Codex Borgia: m) p. 3, n) p. 68; in Codex Fejérváry-Mayer: o) p. 43, p) p. 38, q) p. 9, r) p. 7.
77. The Mayan glyph *iq*, from Bowditch: a) manuscript form, b) inscriptional form.
78. *Teksistekatl* with *teksistli* and *tekp atl*, in Codex Fejérváry-Mayer, p. 24.
79. The same, in Codex Telleriano-Remensis, p. 13r.

PLATE XXX.

80. *Istla Koliuhki* chastising the adulterers, in Codex Telleriano-Remensis, p. 16v. and 17r.

PLATE XXXI.

81. The same, in Codex Borbonicus, p. 12.

PLATE XXXII.

82. The same, in *Tonalamatl* of Aubin Collection, p. 12.

PLATE XXXIII.

83. Stone god with five variously colored *Teskatlipokas*, in Codex Borgia, p. 32.

PLATE XXXIV.

- 84a). *Ketsalkowatl*s in *Teskatlipoka* make-up; b) *Teskatlipoka* in *Ketsalkowatl* make-up, in Codex Borgia, p. 39.
 85. *Istli* or *Teskatlipoka* with cross-road and transgressor, in Codex Fejérváry-Mayer, p. 2.
 86. The same, in Codex Vaticanus No. 3773, p. 19.
 87. The same, in Codex Borgia, p. 14.

PLATE XXXV.

88. Cross-road with directions, in Codex Fejérváry-Mayer, p. 13.
 89. *Teskatlipoka* with eyes tied, in Codex Vaticanus No. 3773, p. 31.
 90. The same, with transgressor's entrails, *ibid.*, p. 39.

PLATE XXXVI.

91. *Teskatlipoka* with hatchet on a throne, in Codex Borgia, p. 12.
 92. The same, with obsidian knife in the dark, *ibid.*, p. 15.
 93. *Witsilopočtli* and *Teskatlipoka* in the south and north, in Codex Fejérváry-Mayer, p. 25.

PLATE XXXVII.

94. The Wanderer of the North, in Codex Fejérváry-Mayer, p. 40.
 95. The Wanderer of the South, *ibid.*, p. 39.
 96. The glyph *šiwitl*: a) in Peñafiel, *Catalogo alfabético*, p. 36; b-c) pp. 3, 6, 7, 54; f) in Peñafiel, p. 11; g) in Codex Vaticanus No. 3773, p. 10.
 97. *Tonakatekutli* and *Tonakasiwatl*, in Codex Borgia, p. 60.
 98. *Tonakatekutli* confused with *Sočipilli*, in Codex Vaticanus No. 3773, p. 87.

PLATE XXXVIII.

99. The old god *Istak Miškowatl*, in Codex Fejérváry-Mayer, p. 6.
 100. The old god *Sipaktonal*, *ibid.*, p. 23.
 101. The old goddess *Ilamatekutli*, *ibid.*, p. 7.
 102. The old goddess *Tonakasiwatl*, *ibid.*, p. 24.
 103. *Istak Miškowatl*, in Codex Borgia, p. 60.

PLATE XXXIX.

104. *Šiuhtekutli* in the middle of the *tonalamatl*, in Codex Fejérváry-Mayer, p. 1.

PLATE XL.

105. The same, in Codex Borgia, p. 14.
106. The same, with the scorpion, in Codex Vaticanus No. 3773, p. 57.

PLATE XLI.

107. The same, with *atl-tlačinolli*, in Codex Vaticanus No. 3773, p. 32.
108. The same, with a bundle of spears, *ibid.*, p. 19.
109, 110. *Yakatekutli* with traders, in Codex Fejérváry-Mayer, pp. 36, 37.

PLATE XLII.

111. Water descending from sky, in Codex Dresden, p. 74.

PLATE XLIII.

112. Water descending from shells, in Codex Dresden: a) p. 34, b) p. 36; water in snake-like vessel:
a) p. 33, b) p. 33, c) p. 34, d) p. 35.
113. Water in vessel, *ibid.*: a) p. 34, b) p. 38.
114. *Čak* crossing the ocean in a boat, *ibid.*: a) p. 65, b) p. 36, c) p. 40.
115a). *Čak* in curly water, *ibid.*, p. 63; b) digitate water, *ibid.*, p. 67.
116a). Curly water with fish and shells, *ibid.*, p. 67; b) child born of a conch, *ibid.*, p. 37.

PLATE XLIV.

117. *Čak* and attendant pouring water from pitchers, in Codex Tro-Cortesianus, p. 47.
118. *Ketsalkowatl* and the rain beasts, *ibid.*, p. 47.

PLATE XLV.

119. *Čak* and the rain beasts, in Codex Tro-Cortesianus, p. 46.
120. Rain from *kaban* in the sky, *ibid.*, p. 44.

PLATE XLVI.

121. The same, in Codex Tro-Cortesianus, p. 45.
122. Water from the conventionalized sky, *ibid.*, p. 62.

PLATE XLVII.

123. Water from the snake vessel, in Codex Tro-Cortesianus, p. 63.

PLATE XLVIII.

124. The same, in Codex Tro-Cortesianus, p. 68.

PLATE XLIX.

125. Water with shells, in Codex Tro-Cortesianus: a) p. 66, b) p. 94; conventionalized water vessel, *ibid.*: c) p. 97, d) p. 98; "hieratic" form of glyph, *ibid.*: e) p. 91, f) p. 62, g) p. 98, h) p. 99, i) p. 101, j) p. 82.
126. The Mayan glyph *muluk*, from Bowditch.
127. *Ekčuh* with water eye, in Codex Tro-Cortesianus, p. 26.
128. The same, *ibid.*, p. 27.

PLATE L.

129. Hare in the mouth of a snake, in Codex Vaticanus No. 3773, p. 27.
130. The same, in Codex Borgia, p. 52.
131. Iguana in the mouth of a snake, in Codex Fejérváry-Mayer, p. 42.

PLATE LI.

132. The Mayan glyph *gan*, from Bowditch: a) in manuscripts, b) in inscriptions.
133. The deer representing lust, in Codex Borgia, p. 53.

PLATE LII.

134. The Mayan glyph *winäl*, as a face sign, in inscriptions, from Bowditch.

PLATE LIII.

135. The same, *ibid.*: 1-15) in the codices, 16-19) as normal period.
136. The Mayan "zero" glyph, in the codices, *ibid.*
137. The same, in the inscriptions, *ibid.*

PLATE LIV.

- 138a). The Mayan Tableau of the Bacabs, in Codex Tro-Cortesianus, pp. 1 and 2.

PLATE LV.

- 138b). Tableau sign of "zero," from Bowditch.
139. The Mayan glyph *kawak*, in the codices and inscriptions, *ibid.*
140. The glyph *keh*, *ibid.*

PLATE LVI.

141. The deer fruit, in Hernandez, *Nova plantarum, animalium et mineralium mexicanorum historia*, p. 384.
142. The crocodile beast, in Codex Dresden, pp. 4 and 5.

PLATE LVII.

143. The deer as the plum beast, in Codex Borbonicus, p. 6.

PLATE LVIII.

144. The same, in the *Tonalamatl* of Aubin Collection, p. 6.
 145a). The Mayan glyph *čen*, from Bowditch; b) the Mayan glyph *maniq*, *ibid.*

PLATE LIX.

146. The conventionalized deer, in Codex Vaticanus No. 3773, p. 96.

PLATE LX.

147. Fire beast descending from the sky, in Codex Dresden, p. 1.
 148. The glyph *ilwikatl*: a) in Codex Magliabecchiano, p. 5v.; b) in Codice Mariano Jimenez, p. 1;
 c) from Seler, *Abhandlungen*, vol. I, p. 267.
 149. Fire beasts descending from the sky, in Codex Dresden, p. 2.
 150. The god on the deer, *ibid.*
 151. "Descents," *ibid.*: a) p. 40, b) p. 39, c) p. 38, d) p. 66, e) p. 68.

PLATE LXI.

152. Wine jar with hare, in Codex Borgia, p. 23.
 153. The same, and *Mayavel*, *ibid.*, p. 12.
 154. The "moon vessel" on a wine jar, in Codex Magliabecchiano, p. 85.

PLATE LXII.

- 155a). Bee god over fire, in Codex Dresden, p. 80; b) old god with vulture and turkey, *ibid.*
 156. Vulture-Negro, *ibid.*, p. 79.
 157. Negro with *kib* sign and vulture, *ibid.*, p. 80.
 158. Bee god as *Ketsalkowatl*, *ibid.*, p. 81.
 159. Bee god: a) over "plenty," *ibid.*, p. 84; b) over "death" and "fire," *ibid.*

PLATE LXIII.

160. Bee god, in Codex Dresden, p. 85.
 161. Negro sacrificing to Vulture-Negro, *ibid.*, p. 93.
 162. Negro as traveling merchant worshiper, *ibid.*, p. 94.
 163. The Mayan glyph *kib*, from Bowditch: a) in codices, b) in inscriptions.

PLATE LXIV.

164. Priest as *Čak* in epagomenal days, in Codex Dresden, p. 25.
 165. *Čak* and jar with *kib* glyph, *ibid.*, p. 29.
 166. Negro and wine-making, *ibid.*, p. 34.
 167. The same, *ibid.*, p. 35.
 168. *Čak* paddling across the ocean, *ibid.*, p. 43.
 169. *Čak* and turkey interchanged, in Codex Persianus.

PLATE LXV.

170. Crocodile with lower jaw, in Codex Vaticanus No. 3773, p. 48.
 171. Crocodile without lower jaw, in Codex Borgia: a) p. 51, b) p. 21, c) p. 51.

PLATE LXVI.

172. *Sipatli* as shark and *Sočipilli*, in Codex Fejérváry-Mayer, p. 42.
 173. *Sipatli* as shark and *Tlalok*, in Codex Vaticanus No. 3773, p. 69.
 174. Shark and *Sočipilli* in Codex Vaticanus No. 3773, p. 291.

PLATE LXVII.

175. Trees growing through *sipatli*, in Codex Nuttall: a) p. 51, b) p. 44.
 176. The glyph *sipatli*, in Codex Nuttall: a) p. 13, b) p. 9, c) p. 4, d) p. 1, e) p. 40, f) p. 35, g) p. 19, h) p. 16, i) p. 25, j) p. 70, k) p. 47, l) p. 42.
 177. Plant growing from *sipatli*: a) in Codex Fejérváry-Mayer, p. 28; b) in Codex Vaticanus No. 3773, p. 17.

PLATE LXVIII.

178. The glyph *sipatli*, in Codex Fejérváry-Mayer: a) p. 21, b) p. 20, c) p. 7, d) p. 8, e) p. 31, f) p. 28.
 179. Plant rising from double *sipatli*, *ibid.*: a) p. 1, b) p. 29; c) "death" rising from double *sipatli*, *ibid.*, p. 17.
 180. Warrior on double *sipatli*, in Codex Nuttall, p. 12.

PLATE LXIX.

181. The glyph *sipatli*, in *Tonalamatl* of Aubin Collection: a) p. 7, b) p. 11, c) p. 5, d) p. 4, e) p. 10, f) p. 8; in Codex Telleriano-Remensis: g) p. 16r., h) p. 23r.; in Codex Borgia: i) p. 18, j) p. 4; in Sahagun's MS.: k, l) p. 35.
 182. Double *sipatli* and "death," in Codex Vaticanus No. 3773: a) p. 12, b) p. 3.

PLATE LXX.

183. Double *sipatli* with bars and circles, in Codex Vaticanus No. 3773: a) p. 42, b) p. 90.
 184. Double *sipatli* with conventionalized bars and circles, *ibid.*, p. 71.
 185. Double *sipatli* like caterpillar, *ibid.*, p. 69.
 186. *Sipatli* as step-like descent, *ibid.*: a) p. 23, b) p. 63.

PLATE LXXI.

187. *Sipatli*, in Codex Borgia: a) p. 8, b) p. 53.
 188. Reticulated double *sipatli*, *ibid.*, p. 71.

PLATE LXXII.

189. *Sipatli*, with Morning Star, in Codex Borgia, p. 19.
 190. *Sipatli* and *Tonakatekutli*, *ibid.*, p. 9.

PLATE LXXIII.

191. *Sipatli* as earth from which corn grows, in Codex Borgia, p. 27.
 192. *Sipatli* as earth, *ibid.*: a) p. 33, b) p. 39.
 193. *Sipatli* as cave, *ibid.*, p. 22.

PLATE LXXIV.

194. *Sipatli* and House of Descent, *ibid.*, p. 24.
 195. *Sipatli*, bars and circles, on *Sočiketsal*, Codex Vaticanus No. 3773, p. 42.
 196. The same, on *Sinteotl*, *ibid.*, p. 22.
 197. The same, on *Mayavel*, *ibid.*, p. 89.

PLATE LXXV.

198. The same, on *Tlasolteotl*, in Codex Vaticanus No. 3773, p. 41.
 199. The same, on *Tonakatekutli*, *ibid.*, p. 79.
 200. The same, on first human pair, *ibid.*, p. 28.

PLATE LXXVI.

201. *Sipatli*, bars and circles, on officiating priest, in Codex Vaticanus No. 3773, p. 37.
 202. The same, on vases, *ibid.*: a) p. 6, b) p. 8, c) p. 7, d) p. 35.
 203. The same, on vases, in Codex Borgia: a) p. 2, b) p. 3, c) p. 67, d) p. 63.
 204. The same, on vases, in Codex Fejérváry-Mayer: a, b) p. 29.

PLATE LXXVII.

205. The Mayan glyph *imiš*, from Bowditch: a) in codices, b) in inscriptions.
 206. *Sipatli* on Copan altar, from Maudsley.

PLATE LXXVIII.

207. Crocodile in the wall of Palenque ruins, by courtesy of Dirección de Antropología, Mexico, and Professor F. Blom.

PLATE LXXIX.

208. Deer with Negro face within its jaws, in Codex Tro-Cortesianus, p. 38.
 209a). Deer as plum beast, *ibid.*, p. 28; b) in transitional shape, *ibid.*

PLATE LXXX.

- 209c). Deer changed into peccary, in Codex Tro-Cortesianus, p. 28.
 210a). Deer, and armadillo, *ibid.*, p. 29 b) in transitional shape.

PLATE LXXXI.

- 211-214. Progressive story of the deer, in Codex Tro-Cortesianus, pp. 96-103.

PLATE LXXXII.

215-218. The same.

PLATE LXXXIII.

219. *Sipatli* descent, in Codex Dresden, p. 8.
 220. *Sipatli* earth, *ibid.*, p. 20.
 221. *Sipatli* bars and reticulation, *ibid.*, p. 27.
 222. *Sipatli* in bottle-shaped formation, *ibid.*, p. 33.
 223. *Čak* in boat on conventionalized *sipatli*, *ibid.*, p. 40.
 224. Old god situated on *sipatli*, *ibid.*, p. 68.

PLATE LXXXIV.

- 225a, b, c). Old god situated on *sipatli*, in Codex Tro-Cortesianus, p. 64.
 226. Story of Vulture-Negro, *ibid.*: a) p. 66, b) p. 67.

PLATE LXXXV.

227. "Death" and conventionalized *sipatli*, in Codex Tro-Cortesianus, p. 103.
 228. The same, and beehive, *ibid.*, p. 105.
 229. Negro worshiper before the fire, *ibid.*, p. 26.
 230. Negro drilling fire, and *sipatli* sparks, *ibid.*, p. 26.
 231. Bottle-shaped *sipatli* and bee god, *ibid.*, p. 86.

PLATE LXXXVI.

232. *Sipatli* marks, in Codex Tro-Cortesianus: a) on old god, p. 83; on *Kimi*: b) p. 54, c) p. 48, d) p. 84, e) p. 18.

PLATE LXXXVII.

- 232f). *Sipatli* marks, in Codex Tro-Cortesianus, on *Kimi*, p. 87; on old goddess, p. 87.
 233. *Sipatli* marks, in Codex Dresden, on *Čak*: a) p. 35, b) p. 34; on *Kimi*: c) p. 53, d) p. 12, e) p. 45.
 234. The Mayan glyph *kimi*, from Bowditch: a) in codices, b) in inscriptions.

PLATE LXXXVIII.

235. The Nine Attendants of the Gods, in Pyramid texts, from Budge, *op. cit.*, vol. I, p. 85.

PLATE LXXXIX.

236. *Qatun* wheel, in Cogolludo, *Historia de Yucathan*.

PLATE XC.

237. The Ninth Lord of the day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.
 238. The same, in Mayan inscriptions, from Bowditch.
 239. *Ketsalkowatl's* hat, in Codex Vaticanus No. 3738, fol. 7v.
 240. *Ketsalkowatl* with jaguar skin hat, in Codex Magliabecchiano, p. 89.

PLATE XCI.

241. *Ketsalkowatl* and *oselotl* in *Tonalamatl* of Aubin Collection, p. 3.
 242. The same, in Codex Telleriano-Remensis, pp. 9v., 10r.

PLATE XCII.

243. *Ketsalkowatl*, in Codex Borbonicus, p. 3.

PLATE XCIII.

244. The Sixth Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection, c) as face sign for "six," in Mayan inscriptions, from Bowditch, d) as face sign for "sixteen," *ibid*.
 245. The Eleventh Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection, c) as face sign for "eleven," from Bowditch.
 246. The Thirteenth Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.
 247. Mayan face sign for "thirteen," from Bowditch.

PLATE XCIV.

248. The Tenth Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.
 249. Mayan face sign for "ten," from Bowditch.
 250. The Second Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.
 251. Mayan face sign for "two," from Bowditch.
 252. The Third Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.
 253. Mayan face sign for "three" from Bowditch.

PLATE XCV.

254. *Siuhtekutli* with tatoo stripe, in Codex Borgia, p. 13.
 255. The First Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.
 256. Mayan face sign for "one," from Bowditch.
 257. The Seventh Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection, c) as Mayan face sign for "seven," from Bowditch.
 258. Glyph of *Tonakatekutli*, in Codex Vaticanus No. 3738, fol. 12v.

PLATE XCVI.

259. The Eighth Lord of the Day: a) in Codex Borbonicus, b, c) in *Tonalamatl* of Aubin Collection.
 260. Mayan face sign for "eight," from Bowditch.
 261. The Fourth Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.
 262. Mayan face sign for "four," from Bowditch.
 263. The Twelfth Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.

PLATE XCVII.

264. Mayan representation of Venus as quincunx, from Seler, *Codex Borgia*, vol. I, p. 254.
 265. Mayan face sign for "twelve," from Bowditch.

266. The Fifth Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.
267. Mayan face sign for "five," from Bowditch.
268. *Tlasolteotl* with moon device, in Codex Borgia, p. 23.

PLATE XCVIII.

269. *Oselotl*, in Codex Nuttall: a) p. 24, b) p. 27, c) p. 29, d) p. 31.
270. *Oselotl* as phonetic value, *ibid.*, p. 46.
271. *Oselotl*, in Codex Fejérváry-Mayer: a) p. 26, b) p. 28, c) p. 41.

PLATE XCIX.

272. Wounded *oselotl*, in Codex Vaticanus No. 3773, p. 25.

PLATE C.

273. *Miskowatl* spearing *oselotl*, in Codex Borgia, p. 50.
274. The same, in Codex Vaticanus No. 3773, p. 84.

PLATE CI.

275. Death god spearing *oselotl*, in Codex Bologna, p. 11.
276. *Oselotl* marking, in Codex Borgia: a) p. 24, b) p. 10.

PLATE CII.

277. *Oselotl* as part of mummy pack, in Aubin Collection, in Duran's *Historia de las Indias de Nueva España*, pl. 14a.
278. The same, in Codex Magliabecchiano, p. 68.

PLATE CIII.

279. Battle array with *oselotl* general, in Codex Nuttall, p. 8.

PLATE CIV.

280. *Oselotl* warrior, in Codex Nuttall, p. 43.
281. *Oselotl* and eagle, in *Tonalamatl* of Aubin Collection, p. 11.

PLATE CV.

282. *Oselotl* and cave, in Codex Vaticanus No. 3773: a) p. 87, b) p. 51.
283. *Oselotl* as warrior, *ibid.*, p. 59.
284. *Oselotl* as *Tepeyollotli*, *ibid.*, p. 63.

PLATE CVI.

285. *Oselotl* as warrior, in Codex Vaticanus No. 3773, p. 70.
286. *Oselotl* attire, in Codex Zapoteco: a) p. 3, b) 28.

PLATE CVII.

287. *Oselotl* warrior, *ibid.*, part II: a) p. 25, b) p. 26.

PLATE CVIII.

288. *Oselotl*, in beginning of story, in Codex Nuttall, p. 82.

289. *Oselotl* warrior and captive, *ibid.*, p. 83.

PLATE CIX.

290. Gladiatorial sacrifice, in Codex Nuttall, p. 83.

PLATE CX.

291. Mummy pack with sacrificed slave, in Codex Magliabecchiano, p. 66.

PLATE CXI.

292. Gladiatorial sacrifice, in Duran, *op. cit.*, trat. 2, pl. 7a.

293. The same, in Aubin Collection, app. pl. 1a.

PLATE CXII.

294. The same, in Codex Magliabecchiano, p. 30.

PLATE CXIII.

295. Jaguar-skin seats, in Codex Nuttall: a) p. 28, b) p. 28, c) p. 24, d) p. 6, e) p. 79, f) p. 29, g) p. 28.

296. Throne, with jaguar-skin cover: a) in Codex Vaticanus No. 3773, p. 64, b) in Codex Borgia, p. 12.

297. Jaguar-skin seats, in Codex Fejérváry-Mayer: a) p. 9, b) p. 8, c) p. 5, d) p. 29, e) p. 25, f) p. 23, g) p. 11, h) p. 36, i) p. 30, j) p. 39.

PLATE CXIV.

298. The glyph *oselotl*, in Codex Nuttall: a) p. 9, b) p. 54, c) p. 32; in Codex Bologna: d) p. 6, e) p. 2; in Codex Borbonicus: f) p. 5; in Sahagun's MS.: g) pl. 35.

299. Jaguar, in Codex Dresden, p. 8.

300. Jaguar, and dog-shaped god, *ibid.*, p. 26.

301. Jaguar, or dog, as fire animal, *ibid.*: a) p. 13, b) p. 40, c) p. 39.

PLATE CXV.

302-306. The story of *Tlawiskalpantekutli* and the *oselotl*, in Codex Dresden, pp. 46-50.

PLATE CXVI.

307. Wounded jaguar, in Codex Tro-Cortesianus, p. 36.

308. Jaguar priest, *ibid.*, p. 41.

309. Jaguar-skin seat pierced by an arrow, in Codex Vaticanus No. 3773, p. 83.

310. Sun seat pierced by an arrow, in Codex Bologna, p. 10.

311. The glyph *sočitl*, in Codex Nuttall: a) p. 4, b) p. 4, c) p. 2, d) p. 25, e) p. 15, f) p. 11, g) p. 5, h) p. 5, i) p. 25, j) p. 18, k) p. 17, l) p. 47, m) p. 46, n) p. 45, o) p. 44, p) p. 53, q) p. 52, r) p. 49, s) p. 47; in Codex Fejérváry-Mayer: t) p. 20, u) p. 16, v) p. 9, w) p. 17, x) p. 24, y) p. 37, z) p. 30.

PLATE CXVII.

312. The same, in *Tonalamatl* of Aubin Collection: a) p. 17, b) p. 16, c) p. 10, d) p. 5, e) p. 19, f) p. 11, g) p. 8, h) p. 4; in Codex Bologna: i) p. 2, j) p. 5, k) p. 6; in Codex Borbonicus: l) p. 4; in Sahagun's MS.: m) pl. 35.
313. The Mayan glyph *ahau* in the codices, from Bowditch.

PLATE CXVIII.

314. The same, in the inscriptions, *ibid.*

PLATE CXIX.

315. The Mayan glyph *tun* as face sign, from Bowditch.
316. The same, as normal period, *ibid.*

PLATE CXX.

317. The Mayan glyph *wayeb*, from Bowditch: a) in codices, b) in inscriptions.
318. The glyph *nemontemi*, in Codex Telleriano-Remensis, p. 7r.
319. *Miskowatl* with crooked stick in Codex Magliabecchiano, p. 42.
320. The Mayan glyph S, in Codex Dresden, p. 68.

PLATE CXXI.

321. Stone circles in Gambia, from *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*, vol. LIII, p. 204.

PLATE CXXII.

322. The Mayan glyph *qatun*, from Bowditch: a) as face sign, b) as normal period.

PLATE CXXIII.

323. Calendar Wheel, in Duran, *op. cit.*, trat. 3, pl. 1.

PLATE CXXIV.

324. The same, in Pimentel, *Memoriales de Fray Toribio de Motolinia*, Mejico 1903.

PLATE CXXV.

325. The same, in Chilan Balam of Kawa.

PLATE CXXVI.

326. The alternating priests, in Codex Dresden: a) p. 25, b) p. 26.

MAPS

LINGUISTIC MAP OF AFRICA	<i>Facing page</i>	2
MAP OF THE MANDE LANGUAGES	<i>Facing page</i>	32
DISTRIBUTION OF ARABIC SAMA' "RAIN, HEAVEN" IN AFRICA . .	<i>Facing page</i>	66
DISTRIBUTION OF ARABIC SAMA' "RAIN, HEAVEN" IN AMERICA . .	<i>Facing page</i>	66

FOREWORD

IT is one thing to get the essence of Christianity from the evolution of its dogmas in the Church, and another to trace the dogmas back to mere linguistic speculations which arise from inadequate renderings in Greek and Latin of the original terms in Aramaic or Hebrew. In his *Faust* Goethe has admirably summarized the effect of such linguistic considerations in the conception of the Logos in theology, which would have arrived at totally different results if the connotations of the word for Logos in the original tongue had prevailed.

When we approach the religious concepts of the Mayas and Mexicans, we are faced either with the necessity of building up the past from the fragmentary, confused accounts of early Christian writers, who interpreted the native mind in the light of their own intellectual experiences, or of reconstructing the native history from the fairly numerous pictorial manuscripts, independently from European ratiocination, through a knowledge of the processes of the native mind. The latter has heretofore not been crowned by any success, because, in spite of the cleverness with which a handful of calendrical hieroglyphics has been deciphered, the reading of the pictures could never obtain any precision, since no proof could be furnished from Indian testimony that the meaning had been correctly guessed.

The author has in the present work set himself the task of studying the Indian's mode of thinking and representing his thoughts in writing from the permanent linguistic data, based on native etymologizing, which are as active to-day in living speech as when they were represented in rebus form in the pictorial manuscripts. Thus, for example, all the reasons adduced by archeologists why rain was in America frequently represented by a dog or turtle descending from the sky were immediately invalidated when it was discovered that in Mexico and Yucatan the words for "heavy rain" were homonyms of "flat, spreading out all four legs, dog, turtle," which, however, were of an entirely different etymological origin. The rebus form of writing, the only one we know of in America, in this case facilitated the representation of heavy rain by a dog or turtle. Similarly all the surmises why zero in Maya is determined by a hand or a shell are dispelled as soon as we discover that in Aztec, from which the Maya obviously borrowed the term, water is often designated by a hand or a shell, and that in Aztec the term for "nothing," *atle*, is a homonym of *atl* "water."

Having repeatedly pointed out the Mandingo origin of the American

civilizations, the author naturally transferred the linguistic study of origins to Africa as well, and here the most astonishing, totally unexpected results were obtained. It turned out that the Mande languages originated in a traders' *lingua franca*, of which the underlying vocabulary was little more than Arabic. This necessitated the study of traders' jargons, which was relegated to the Introduction, and here it was possible to show by documentary evidence that such jargons appear full-fledged in a very short time, a dozen years sufficing to establish them on a par with existing languages. It was here furthermore revealed that the Bantu languages had an overwhelming Mande vocabulary, so that the dispersion of the Bantus was subsequent to the formation of Mande from an Arabic substratum, some time after the seventh century; hence it was to be expected that the Bantu forms of the original terms would sometimes be more primitive than in the later forms of the Mande. Thus Aztec *nen-* "vain, tongue" appears in the same form in Bantu, although the two connotations are of different Arabic origin.

The linguistic study of the religious concepts among the Mandes showed that an uncultured literalism of Quranic precepts, joined to the usual native etymologizing, accounted for most of the practices, while others arose similarly from the same uncultured literalism of Arabic customs. The latter, for example, is apparent in the leopard worship in Africa, which arises from the Arabic judge's donning the leopard skin, the Persian *palañ*, represented as *balan* among the Mandingos and ultimately giving rise to Maya *balam* "jaguar" and the jaguar worship among the Mayas.

To get the full potency of the native's pictorial conceptions, it appeared that the precise representation, as found in the manuscripts, must be studied in connection with the native color scheme. A comparative study of these revealed important points, for "blue," connected in the native mind with "water," "green" with "excellence," "brown" with "crocodile" and "earth," "yellow" with "jaguar" and "royal dignity," led to new discoveries. Here certain mechanical difficulties arose in the reproductions, since shades of color, due to the artists' idiosyncrasies or to weather conditions, could not be attempted without enormous expense, hence in this work the colors are normalized to the intended nearest type. Since the study of the hieroglyphics leads to no direct comprehension of the pictorial text and often hampers the visualization of the scene, the glyphs have generally been omitted. The glyphs have not been studied in themselves, with the archeological presuppositions of "schools," but in the light of the pictorial representations in Aztec manuscripts. Thus, after "water" had been minutely analyzed in all its linguistic ramifications, it was studied in its pictorial and hieroglyphic

forms in Aztec, and the results have invariably been at odds with those of the "schools." When the Maya glyph *been* was subjected to the pictorial evolution, it turned out to be, not a mat, as absurdly maintained by certain archeologists, but the same bundle of arrows as in Aztec, and its name identical with Mandingo *biñe* "arrow."

The major part of the religious concepts of the Mandingos, hence of the Mayas and Mexicans, arises from linguistic speculations bequeathed by the Arabs in their astrology and astronomy, as derived from a Hindu source, hence it is now possible to maintain that the American civilizations were derived from Africa after the ninth century, since it is only in the ninth and tenth centuries that the Hindu study of the sky became the preoccupation of the Arabs. This is corroborated by the "ten" word *kumi* in Africa, *kimi* among the Mayas, which, by being superseded in Mexico and in the Western Sudan by *tam* and *fu* words, without showing such change in Bantu, indicates that the Mande influence in America was most active after the Bantu dispersion.

Unquestionably, the archeological dogs will continue to bay at the moon and will pursue the same vociferous methods as in the past, in order to suppress the search for the truth with noise where reason fails, forgetful that the truth, wherever it be, will shine forth without such vocal emphasis.¹ Meanwhile it is my duty and my pleasure to direct the reader's attention to the fact that this venture would never have been realized, if it were not for the courageous attitude of my patron, the Hon. John B. Stetson, Jr., U. S. Minister to Poland, who, in the face of the vilest private and public aspersions of the author, not only supported him with rare generosity, but also with helpful sympathy. The author must also thank the Yale University Press for the exceptional artistic perfection of the work.

LEO WIENER.

¹ "Truth is great and will prevail, if left to herself,—she is the proper and sufficient antagonist to error, and has nothing to fear from the conflict, unless by human interposition disarmed of her natural weapons, free argument and debate, errors ceasing to be dangerous when it is permitted freely to contradict them." Thomas Jefferson in "An Act for establishing Religious Freedom, passed in the Assembly of Virginia in the beginning of the year 1786."

MAYAN AND MEXICAN ORIGINS

I.

Introduction.

1.

R. BASSET¹ observed that a considerable number of Berber words borrowed from the Arabic assumed a Berber form of an analogous grammatical formation. Thus Arabic *madīnat* "town" became *themdint*, *temdint*, Arabic *mazǧīdat* "mosque" turned into *tamezǧida*, and their plurals are *thimd'inin*, *simezǧidiun* respectively, so that their Arabic origin is all but obliterated. Basset was unable to explain this phenomenon on any other ground than this, that these words are of a more ancient origin than the more regular Arabic borrowings. Since the invasion of the Arabic tribes of B. Hilal in the middle of the eleventh century completely changed the condition of northern Africa in the direction of an Arabic transformation, he concludes that the Berberized borrowings are those of an older date. But this reasoning is fallacious since age can have little to do with the transformations, which take place suddenly and remain permanently in the language. It is not time, but the manner of borrowing, which counts. If the Arabic prototype remains consciously a borrowing from a superior religious, governmental, scientific, social source, it has the tendency to remain intact, like the corresponding European borrowings from Latin. If words have entered by way of trade relations, and at that indirectly, their origin remaining more or less obscure, they undergo transformations by analogy, even as has happened in Europe with the religious words of popular distribution from Latin and Greek. The first class is philologically denominated learned, the second—popular.

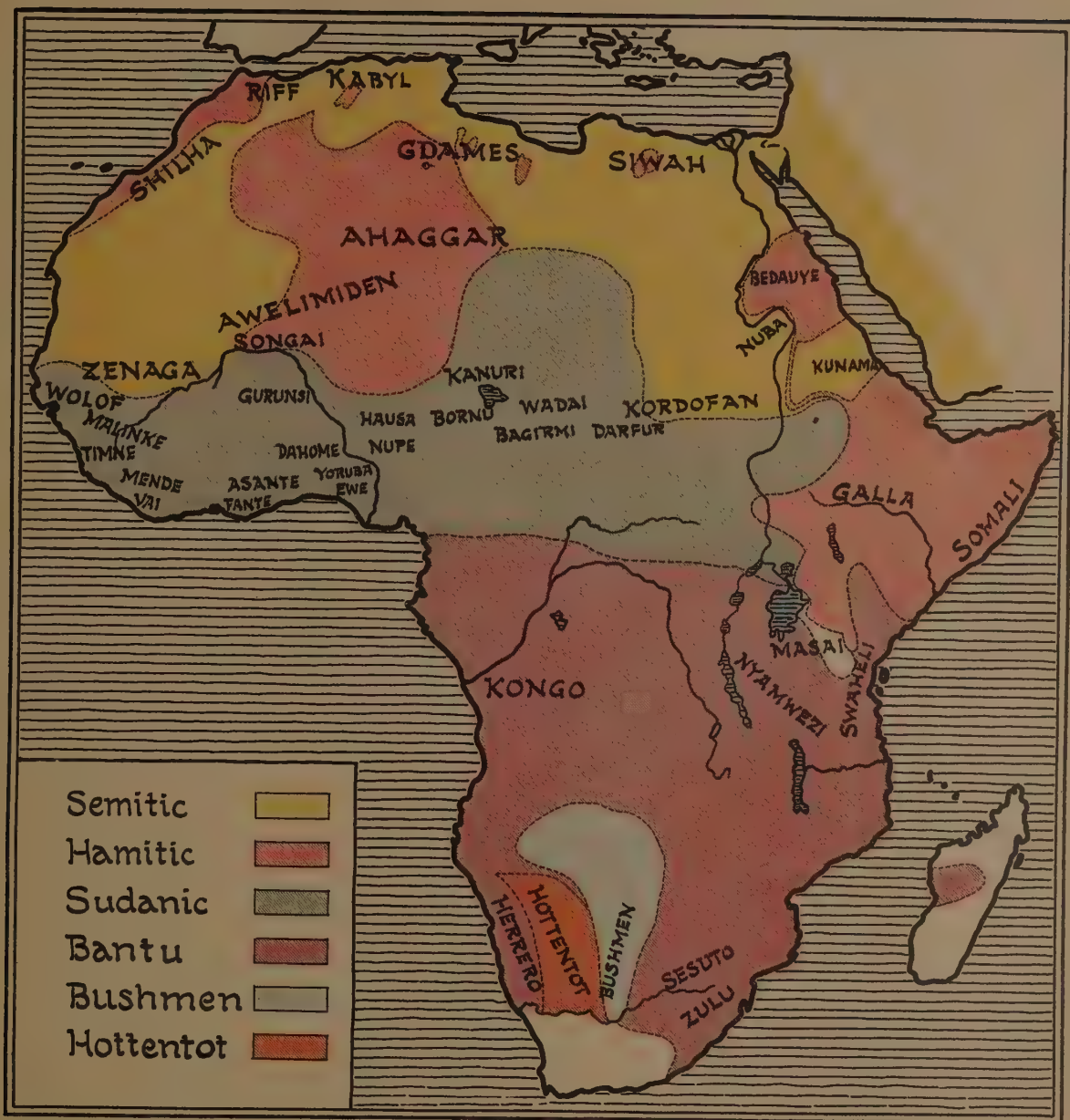
Basset goes on to distinguish between a native Berber and a Berberized Arabic root in the case of a family of words meaning "to throw, violence, thief." He adduces Ahaggar *ger* and its derivatives, among which we have Bougie *thagera* "point," *thigri*, Kabyl *thaguri* "thrust," Zenaga *tigera* "courage, attack, violence," Awelimmiden *ager* "lance, dart," Gdames *edjer*, B. Menacer *ier*, Kabyl *theger*, A. Khalfun *dhier* "to throw," Kabyl *regir* "to push," Kabyl *akur*, Mzab *asher*, Tamsawen *asher*, Zenaga *ager* "to steal," Mzab *akerdha*, Kabyl *thukerdha* "theft," Wargla *amkerdhan*, Kel-Wi *amekarad* "thief," etc., and comes to the conclusion that we have here a Berber root *ger* and an Arabic *ṭayar* "to cause to fly," and the latter in Berber becomes *ṭaggar*, etc. Of course, one can reason out "to throw" from "to cause

¹ *Les mots arabes passés en berbère*, in *Orientalische Studien*, Theodor Nöldeke zum siebzigsten Geburtstag, Gieszen, 1906, vol. I, p. 439 ff.

to fly," but there is nowhere the slightest proof that such an Arabic root lies at the foundation of the Berber derivatives. The eminent Berber scholar makes the common philological mistake of confining himself to one linguistic group and neglecting every other source of information, thus arriving at an utterly untenable conclusion. If this Arabic influence was active before the eleventh century among the Berbers it was equally active among the Hausas, Peuls, and Mandes, through whose countries the early Arabic adventurers passed on their way to the Ashante gold mines or the pepper of the Ivory Coast. With the aid of these sources we generally get a complete picture of the cultural penetration of the Arabs, as it may be traced through the loan-words.

There is an Arabic root *dagara* "he pushed, thrust, drove, impelled," hence *dagra* "he rushed upon him without consideration," *dagr* "snatching a thing unaware, seizing it hastily when its owner is unaware, filling one's hand with a thing and carrying it off." This is a dialectic form of *dasara* "he pierced," *dusur* "nails," which is already recorded in the Quran, while *dagr* "a kind of theft for which there is no amputation of the hand" is referred to as a tradition in the eleventh century, hence there can be no doubt of the Arabic origin of the word. The root *dgr* is also found in Hebrew and Syriac, where it means "to collect, compress." In Peul we have *dogarid'o* "killer, hangman, executioner, murderer," hence *dogaranked'o* "policeman," *dakared'o* "infantry soldier, warrior," *dakare* "soldier, workman," from which there is formed *duka*, *tuka*, "to push, punch, support," *tukorki* "support." The Hausas have similarly *dakara*, *dogari* "a soldier of the King's body-guard, and executioner," *dankira* "to press," *dogare* "to lean upon, prop oneself by, trust in, ask favor from." In *daka*, *dakka*, *duka*, *doke* "to strike, beat" we have, however, a confusion with Arabic *dakka* "be struck," while in *dirka*, *tsirka* "to beat" we have a similar confusion with Arabic *taraka* "he struck." In the Mande languages we find Bambara *tegere* "brigand, bandit" and *digi* "to push," Malinke *tagire* "highwayman," *digi* "to push," Khasonke *tigare* "bandit," *digi* "to enter, teach, learn." From this correlation it follows that Berber *deger* "to push, steal" is directly derived from the Arabic root; while *ger* and its derivatives are simplifications of the same.

Not only have the languages under discussion an enormous number of words loaned from the Arabic in a popular way, but the Mande languages of the *tam* group, Malinke, Bambara, Dyula, Khasonke, and to a much lesser degree Vai, Soninke, have such an overwhelming Arabic vocabulary of the popular kind as to have lost their African appearance, except as to their grammatical structure, which alone classes them with the other Mande lan-



LINGUISTIC MAP OF AFRICA.

guages of the *fu* group, that is Soso, Mende, etc., in one inseparable family. In order to understand the process to which Malinke, Bambara, etc., have been subjected, it becomes necessary first to study the condition of the Creole languages within our immediate field of observation.

In the South Sea, missionaries and colonists, as pioneers of European civilization, were preceded by whalers, fishermen of trepang, and cutters of sandalwood. Between these, mostly Englishmen and Americans, and the islanders there was evolved on an English base a very crude language of intercommunication. The whalers were the first to enter with the natives into relations, albeit of a superficial character; but, as they touched upon various distant coasts and for a long time were removed from the foci of civilization, they were naturally led to the formation of a jargon, which for that reason was called "whaler's jargon." To the basic English stock were added words which were picked up by these "beachcombers" at any and all places. Thus for example, among the Chukchie, especially at Plover Bay, the Portuguese *mi savi*, *mi no savi* is as well known as the Hawaiian *pau* "nothing" or "there is not any" (more correctly "finished, all gone") and *kau-kau* (or, as Nordenskiöld writes, *kakau*) "to eat." These expressions have been introduced by American whalers who at each season take at various points a number of natives on board, in order to use them in connection with the whaling industry. The activity of the trepang gatherers and cutters of sandalwood was developed in a narrower and more closely defined circle, and they came into a more permanent contact with the islanders, and thus contributed to the fixation and expansion of the jargon.¹

With these words Schuchardt has fully defined the *Biche-la-Mar* of the Polynesian and Melanesian Islands and of Queensland. It is the child of necessity, to facilitate in the Pacific those trade relations which were created by the enterprise of English and American shipping concerns. The ultimate emporium for the trepang and sandalwood was in China, and it is more than likely that here the Pidgin English, the foster child of *Biche-la-Mar*, had its origin. However, the close commercial intercourse between American traders and Chinese merchants, and the constant reflex of Chinese emigrants from the United States in the second half of the nineteenth century have considerably altered the composition of this mixed Anglo-Pacific jargon, so that the Chinese Pidgin English stands out as a new variety and is even more transformed in the dialect of Yokohama with its preponderant Japanese vocabulary. That these variations are not to be detached from the *Biche-la-Mar* follows from the extraordinary use of "*belong*" for the formation of the possessive case in Chinese Pidgin as in *Biche-la-Mar*, which harks back to the common whaler's jargon.²

¹ H. Schuchardt, *Kreolische Studien*, in *Sitzungsberichte der philosophisch-historischen Classe der Akademie der Wissenschaften*, vol. CV, p. 151 f.

² For the literature of the mixed languages see K. Lentzner, *Dictionary of the Slang-*

Biche-la-Mar is frequently employed in books of travel in Melanesia and Queensland. The story of the "Debil-Debil"¹ will illustrate the Queensland variety:

"Subpose," said the terrified boy, "black fella might hear 'em, that debil-debil tching out, altogether no more yabber little bit (keep silence). Altogether tell 'um um-boi-ya (medicine man). That one trow'um wookoo (message-stick) alonga scrub. He trow'um pire stick, ungkurra, eparra ung neera, arwona-deer (north, south, west, east). He sit down little bit. Bi'mby that one ahanaburra (scrub turkey) he plenty 'tching out. Altogether black fella make 'um big fella fire. He no more sleep. He look out all time. Bi'mby, longa morning he altogether yan. He looked out 'nother fella' yamber (camp). Ole man plenty time bin yabba me debil-debil before long time, bin catch 'em ole man ole woman. He no more see 'em. He find 'em little bit yetin (skin) longa yil-gil-gil (lawyer vine). Ole man bin yabba some time debil-debil 'tching out like it big fella oor-bung-ah (big wind) first time; bi'mby tching out all asame youn-me bin hear 'em. Black fella he no more see'em nuthin. One time altogether been see'em like it sum-moke. He yan. Debil-debil come up. Me no bin see 'em. Me bin hear'em one time. Me close up ar-tum-ena (baby).

An extract from a conversation entitled "On the Beach"² will give a good idea of the Melanesian jargon:

CHARACTERS

White Man (*dressed in dungaree trousers, white singlet and broad-brimmed felt hat. Very dirty. Looks like a third-class stoker on a tramp steamer*).

Aboh, *a native of Pauma.*

Djemalaos, *a Seychelle Island nigger.*

Various Pauma Natives.

Aboh. Goudé, Master.

White Man. Goudé, Aboh. You go where?

A. No. Me walk 'bout no more. You, you go where?

W.M. Me come long Ambrym longa lannitch. Me want pay 'im some somethin' longa store longa Mis Collins.

A. Oright. Gooby. Me, me stop. (*They shake hands. Exit W.M. along bushtrack. Thirty minutes later W.M. reappears.*)

W.M. 'Ere. Which way longa Mis Collins? 'Im'e no stop?

A. Yiss.

W.M. Missis b'long 'im 'e no stop?

A. Yiss.

W.M. Two feller 'e go where?

English of Australia and of Some Mixed Languages, Halle-Leipzig, 1892, p. x ff., and O. Jespersen, *Language, Its Nature, Development, and Origin*, London [1922], p. 216 ff.

¹ E. J. Banfield, *The Confessions of a Beachcomber*, London, 1908, p. 307 f.

² B. Lynch, *Isles of Illusion*, Boston, 1925, p. 325 ff.

A. Two feller 'e go Vila finish.

W.M. (*angrily*). Which way you no bin tell 'im out? Me, me bin go longa store. Me sing out, me sing out. No. (*Aboh laughs merrily. W.M. enraged forgets his Biche-la-Mar.*) You . . . you.

A. (*frightened*). Me no sabby.

W.M. (*anxious for information, recollects himself*). Two feller 'e go Vila finish long time?

A. No. 'Im 'e go yissterdi no more.

W.M. Two feller 'e go longa what?

A. Me no sabby.

W.M. Two feller 'e go longa lannitch? No, two feller 'e go longa boat long all boy? Which way?

A. No. Two feller 'e go long *picnini* man-war.

W.M. *Capman* 'e bin take 'im 'e go?

A. Yiss.

W.M. Longa what?

A. (*brightens up*). You no bin haar 'im?

W.M. Yiss. Me no haara nothin. Me come now 'ere no more. Mis Collins 'e bin make wha' name?

A. 'Im 'e bin killa one boy.

W.M. 'Im 'e *kill'im dead finish*?

A. No. 'Im 'e no dead no more. 'Im 'e no dead finish.

W.M. 'oo 'ere boy where Mis Collins 'e bin kill 'em?

A. Jack. Me haar 'im all 'e tell 'im all same.

W.M. Wha' name Jack? Jack long Liro?

A. No.

W.M. Jack longa Tapolai?

A. No.

W.M. 'oo Jack? You tell 'im out.

A. You no sabby? Jack longa Tahi.

W.M. Brother b'long you?

A. Yiss. How much you pay longa copperah?

W.M. Mis Collins 'e bin kill 'im longa what?

A. Me no sabby.

W.M. Mis Collins 'e bin kill 'im long hand b'long him? No, 'e bin kill 'im longa one wood?

A number of native Australian words have entered into the Queensland Biche-la-Mar, because the whalers who had introduced the jargon had not provided the natives with such terms as "north, camp, skin," etc. We can best watch the formation of a Pacific *lingua franca* in the American Northwest, at the mouth of the Columbia River, where we have ample documentary evidence for the chronological order of its development.

Captain Cook's visit at Nootka Sound was still fresh in the memory of men when Meares in 1788 and 1789 touched at the northwest coast of America. From his "Account of the Trade Between North West America and

China"¹ we learn that traders had already been active in bartering English products for Indian furs, which were generally disposed of in Chinese markets:

The first adventurers employed iron, beads, glass and Indian gewgaws as the medium of barter; but they who succeeded them added British woollens to the trade, and whole villages of American natives were seen clad in blankets, and decorated with every article of English dress. Indeed, after some time, the Indians became so fond of woollen articles, that no commercial engagement could be formed with these people in which they did not form the commanding inducement. The sea-otter skin may be a more beautiful and warmer garment, but it is infinitely more cumbersome than the blanket; which, when once adopted, was preferred in the most decided manner, from a sense of superior convenience; and respecting the articles of European dress for which their simple fancy or love of novelty might be supposed to impel their choice, they might be so varied as to keep awake those prepossessions till they become habits, whose calls must be supplied by British manufactures.²

In 1805 Lewis and Clark reached the same region and heard of a dozen traders and hunters who were already known to the Indians.³ These traders had brought to them

guns (which are principally old British or American muskets), powder, ball and shot, copper and brass kettles, brass tea-kettles and coffee pots, blankets, from two to three points, coarse scarlet and blue cloth, plates and strips of sheet copper and brass, large brass wire knives, tobacco, fishhooks, buttons, and a considerable quantity of sailors' hats, trowsers, coats, and shirts. But, as we have had occasion to remark more than once, the object of foreign trade which is the most desired are the common cheap blue or white beads, of about fifty or seventy to the pennyweight, which are strung on strands a fathom in length, and sold by the yard or the length of both arms; of these, blue beads, which are called tia commashuck, or chief beads, hold the first rank in their ideas of relative value; the most inferior kind are esteemed beyond the finest wampum, and are temptations which can always seduce them to part with their most valuable effects. Indeed, if the example of civilized life did not completely vindicate their choice, we might wonder at their infatuated attachment to a bauble in itself so worthless; yet these beads are, perhaps, quite as reasonable objects of research as the precious metals since they are at once beautiful ornaments for the person and the great circulating medium of trade with all the nations on the Columbia.

These strangers who visit the Columbia for the purpose of trade or hunting must be either English or Americans. The Indians inform us that they speak the same language as we do, and indeed the few words which the Indians have learnt from the sailors, such as

¹ J. Meares, *Voyages Made in the Years 1788 and 1789, from China to the North West Coast of America*, London, 1790, p. lxvii ff.

² *Ibid.*, p. lxix.

³ *History of the Expedition of Captains Lewis and Clark*, edited by James K. Hosmer, Chicago, 1902, vol. II, p. 152 f.

musket, powder, shot, knife, file, heave the lead, damned rascal, and other phrases of that description, evidently show that the visitors speak the English language. But as the greater part of them annually arrive in April, and either remain till autumn or revisit them at that time, which we could not clearly understand, the trade cannot be direct from either England or the United States, since the ships could not return thither during the remainder of the year. When the Indians are asked where these go on leaving the Columbia they always point to the southwest, whence we presume that they do not belong at any establishment at Nootka sound.

But as early as 1792, D. Alcalá Galiano¹ recorded at Nootka Sound twenty-two ships, eleven English, eight American, two Portuguese, and one French: "There is hardly a point on the coast from the 37th to the 60th degree which is not visited by these boats. If we lack a circumstantial and truthful account based on the notices, explorations and reconnoiterings of these navigators, the cause of it is due to the fact that as soon as they discover a harbor or entrance which was formerly unknown and find there inhabitants and means of acquiring furs profitably, they take advantage of the circumstance and conceal the notice of the discovery with the purpose of carrying on an exclusive commerce in these regions." In his Nootka vocabulary² we still have the unaffected dialect without any English admixture. It is to be noted, however, that at least one French word, *chapeau* "hat," had found its way into it in the form of *chiapuz*, as recorded by him. This was also adopted by the Chinook jargon, where we have *seapoh*, *seapult*, etc. But since the word is already recorded by Cook as *ssecapoox* "conic cap made of mat, worn on the head," it may be a Nootka word in spite of the resemblance to the French.

Another early jargon word is already recorded by Clark and Lewis, where *chepalel*, *shapalel*, etc., are frequently used for "bread, cake," generally made of native roots, but in the jargon the reference is distinctly to "bread, wheat," as of white origin. Thus A. Ross³ records for the second decade of the nineteenth century Chinook *chapallell* "bread." Horatio Hale gave it as *sapolil* "flour, bread" and tried to derive it from French "farine." G. Gibbs⁴ added Yakima *saplil* and suggested Chinook *tsapelil*, which does not ad-

¹ *Relacion del viage hecho por las Goletas Sutil y Mexicana en el año de 1792 para reconocer el Estrecho de Fuca*, Madrid, 1802, p. 112 f. By some the authorship is ascribed to J. Espinosa y Tello.

² *Ibid.*, p. 178 ff.

³ *Adventures of the First Settlers on the Oregon or Columbia River*, London, 1849, p. 347.

⁴ *A Dictionary of the Chinook Jargon, or Trade Language of Oregon*, New York, 1863, p. 22.

vance the matter. W. C. Hazlitt¹ quoted from the *San Francisco Bulletin* of 1858 *paplel* "wheat," *sire saplel* "bread." We have here two typographical errors, for the first should read *saplel*, the second *pire saplel*, as is proved by other collections,² where we have *piah sapolill* "baked bread," *piah* being the English "fire" for which Hazlitt gives the intermediate form *pire*. One need only open a page of advertisements of a Boston paper of about 1800 to convince oneself that the usual term for the bread carried by New England sailors was baked in New England bakeries and advertised as *ship bread*, which is the real origin of the jargon *shapalel*, etc. Indeed, the jargon word for "ship" is *ship*, and, since the jargon lacks *r* and avoids *d*, which is changed to *l*, as in *polalie*, *pulalie* "powder," we get for English "bread" the corresponding *palel*.

There had been English ships at Nootka even before 1792, and beginning with 1797 Boston traders were common in the Columbia River. Since at Nootka was established the English settlement of King George, "Englishman" became in the jargon *Kintshotsh*, while *Bostun* was reserved for "American." Ross is the first to give a specific name for a white man, namely, *pasheshiooks*, while for "blanket" we have *pachiche-tillcup*.³ To this Gibbs⁴ says: "Mr. Hale supposed this to be a corruption of the French word *Français*. It is, however, really derived from the foregoing word, PASISI, with the terminal UKS, which is a plural form applied to living beings. Lewis and Clark (vol. ii, p. 413) give *Pashisheooks*, clothmen, as the Chinook name for the whites, and this explanation was also furnished me by people of that tribe. It has since been generally restricted to the French Canadians, though among some of the tribes east of the Cascade Range, it is applied indiscriminately to all the Hudson's Bay people." Under March 19, 1806, Lewis and Clark actually say, "they call us *pâh-shish'-e-ooks*, or clothmen,"⁵ but the identical text for that date and, at that, in a much better spelling than before, rouses the suspicion that they quoted some unknown predecessor.

As Ross's *tillcup* is the *t'kop* "white" of the jargon, it becomes clear that *pachiche* does not originally mean "blanket," but "cloth" in general, since "blanket" is here expressed by "white cloth," and *pasheshiooks* "white men," originally meant "clothmen, traders," who were originally from Boston. The word was not referred to the French Canadians before 1812,

¹ *British Columbia and Vancouver Island*, London, 1858.

² *Guide to the Province of British Columbia*, for 1877-1878, Victoria, 1877.

³ *Op. cit.*, p. 346. ⁴ *Op. cit.*, p. 20. ⁵ *Op. cit.*, vol. IV, pp. 185, 190.

when the first colony of voyageurs arrived at the Columbia and became the intermediaries between the traders and the Indians. The naming of a blanket as "white cloth" is due to the fact that they were exclusively so among the Chinooks, for even as early as 1778¹ these white blankets had been observed by navigators, though then they were probably of native weaving. It will be observed that Lewis and Clark mention among the objects of trade "blankets from two to three points" and "coarse scarlet and blue cloth." Blankets had long formed an object of barter for Indian furs, but here we also hear of colored coarse cloth, which has to be defined more closely. We find this early in the nineteenth century² referred to as *baize* "a sort of coarse open woolen stuff, having a long nap, sometimes frized, and sometimes not. This stuff is without wale, and is wrought in a loom, with two treddles, like flannel." In the Boston newspapers of the time we find, constantly, "duffle, baizes, and flannels" mentioned among woolens for sale. As "duffle" is a blanket stuff, and flannels are a much finer material, baizes must have been heavier, though not as heavy as blankets. Though now chiefly used as linings and for covering billiard tables and doors, they once were employed for dressing monks and nuns and in general producing coarse garments. The Boston traders who ultimately reached the Columbia River had to figure on lighter material for barter than with the Indians of the Northeast and so dealt chiefly in baizes, rather than in blankets. Thus *baizes* produced *pachiche*, *paseesie*, *pasese* "woolen cloth," and the traders themselves became *pasisiuks*, *pashisheuks* "white men" and, at last, "French Canadians."

Horatio Hale counts among the jargon words of French origin *kapo*, but incorrectly so, since only the rarest French words have entered into it without the article. Even as the words for "Frenchman, blanket, gunpowder, flour" have turned out to be traders' words, so we find in Ross³ "capot" translated by *capawillaughte* and in Lewis and Clark⁴ those scoundals stole a *cappoe* of one of our interpreters," which prove that the word was current in English, hence jargon *kapo* is not primarily of French origin. The first Canadian voyageurs reached the Northwest in 1810 with the ship *Tonquin*, but most of them were massacred by the Indians. On the tenth of January, 1812, a number of French Canadians from the Hudson Bay Company

¹ Menzies's *Journal of Vancouver's Voyage*, Victoria, B. C., 1923, in *Archives of British Columbia*, Memoir No. V, p. 153 f.

² T. Mortimer, *A General Dictionary of Commerce, Trade, and Manufactures*, London, 1810.

³ *Op. cit.*, p. 348.

⁴ *Original Journals of the Lewis and Clark Expedition*, edited by R. G. Thwaites, New York, 1905, vol. III, p. 197.

reached the Columbia overland,¹ but intermarriages between these and Chinook women had begun a little earlier, for the birth of the first half-breed is recorded for January of 1812.² Before 1825 there were some fifty such children in the Columbia:

In the establishments belonging to the whites in the Columbia are many Indian women, as wives to the different classes of people in the employ of the Company. These may be in all about fifty. Some of them have large families, and the tenderness existing between them and their husbands presents one great reason for that attachment which the respective classes of whites cherish for Indian countries. The vigilance of these women has often been instrumental to the safety of the forts when the most diabolical combinations were set on foot by the natives.

As it frequently happens that their husbands go home to Canada, with the means of living at their ease, these must of necessity rejoin their respective tribes, where they generally remain in a state of widowhood during a year or two, in expectation of their return. If the husband does not return, the woman then bestows her hand on one of his comrades who has the good fortune to please her fancy the best.

Habituated to the manners of the whites, they prefer living with them for the rest of their lives, and generally prove faithful to their husbands. They are likewise much attached to their families—a disposition inherent in all Indians. Nor are they wanting in many other qualities necessary to form the good housekeeper. They are tidy, saving and industrious. When they rejoin their tribe, the whites find them very friendly, and they never fail to influence their connections to the same end. By these means a close alliance is formed between the traders and the aborigines of the country, which might, by means of their offspring, be instrumental in bringing civilization among the Indians were there some wise policy adopted for the government and care of half-breeds, whose destiny it is to be left in indigence by poor parents in this far-distant region of the earth.³

In 1838 the number of these half-breeds had risen to eight hundred,⁴ and as these with their Canadian progenitors were used in the trade between the white men and the Indians of various tribes, it becomes clear that the Chinook jargon, with its very large French element, had its origin between 1812 and 1825.

During this period A. Ross tried to distinguish between Chinook and the "lingo":⁵ "Besides the foregoing language, there is another lingo, or rather mixed dialect, spoken by the Chinook and other neighboring tribes: which is generally used in their intercourse with the whites. It is much more easily learned, and the pronunciation more agreeable to the ear than the other, as

¹ A. Ross, *Adventures of the First Settlers on the Oregon or Columbia River*, p. 182.

² A. Ross, *The Fur Hunters of the Far West*, London, 1855, vol. I, p. 292.

³ *Ibid.*, p. 296 f.

⁴ W. H. Gray, *A History of Oregon 1792-1849*, Portland, 1879, p. 169.

⁵ A. Ross, *Adventures of the First Settlers on the Oregon or Columbia River*, p. 342.

will appear from the annexed specimen.”¹ However, this Chinook vocabulary contains a number of jargon words, while his “lingo” still excludes French words. S. Parker² in the middle of the thirties recorded *leelo* “wolf,” which is French *le loup*, no doubt because he did not recognize its foreign origin. In the beginning of the forties Hale gave a considerable number of French words, with the incorporated article, as an integral part of the jargon. It is clear that this incorporation is not due to a trader’s necessity, but to the desire of the Canadian fathers to give their children a “French” education. This is made more certain because a large number of such words have no reference to objects of trade, but are mere substitutes for native words, such as is the above *leelo* “wolf.” G. C. Shaw³ records 153 French words, *laboos*, *lapush* (“la bouche”), *lacaset* (“la cassette”), *lahb* (“l’herbe”), *lalang* (“la langue”), etc., which could not have arisen from a trader’s necessity but originated in an attempt of the younger generation to align themselves with their fathers’ superior “culture.”⁴ Among these French words we find *lakammas*, also without the article, *kammas*, “the *Scilla esculenta*, a bulbous root used for food by the Indians,” as given by Gibbs, which he, with Jewitt, derives from Nootka *chamass* “fruit, sweet, pleasant to the taste.” The word is already in the Nootka vocabulary of 1792, as given by Alcalá Galiano.⁵ The French form *lakammas* for a native plant, found only in the West, demands a thorough investigation.

When the first published account of Lewis and Clark’s expedition appeared in 1807 from the hand of Patrick Gass,⁶ the word *kamas* was already used, for he says: “we travelled about twelve miles and arrived at what we called *Commas* flat, when we first met the natives after crossing the Rocky Mountains last fall. Here we encamped and some hunters went out. The *Commas* grows in great abundance on this plain, and at this time looks beautiful, being in full bloom with flowers of a pale blue colour.”⁷ It will be observed that the flat was called *Commas* by the white men, and it remains to find out whether the name of the plant was at that time known to the Snake or Shoshone Indians, among whom the expedition was then stopping.

¹ A. Ross, *Adventures of the First Settlers on the Oregon or Columbia River*, p. 348 f.

² *Journal of an Exploring Tour beyond the Rocky Mountains under the Direction of the A. B. C. F. M., Performed in the Years 1835, '36, and '37*, Ithaca, N. Y., 1838, p. 337.

³ *The Chinook Jargon and How to Use It*, Seattle, 1909.

⁴ For an account of the condition of the half-breeds in the Northwest read R. Cox, *Adventures on the Columbia River*, New York, 1832, p. 309 ff.

⁵ *Op. cit.*, p. 180: “Fruta *chamas*.”

⁶ *A Journal of the Voyages and Travels of a Corps of Discovery*, Pittsburgh, 1807.

⁷ *Ibid.*, p. 223.

The authorized account of the expedition appeared only in 1814, and there we read that in September 20, 1805, when they first passed through this country, "they now set before them a small piece of buffalo meat, some dried salmon, berries, and several roots. Among these last is one which is round and much like an onion in appearance, and sweet to the taste; it is called *quamash* and is eaten either in its natural state, or boiled into a kind of soup or made into a cake which is then called *pasheco*."¹ Gass refers to the same under September 23, 1805: "The provisions which we got consisted of roots, bread and fish. Their bread is made of roots which they call *comas*, and which resemble onions in shape, but are of a sweet taste. This bread is manufactured by steaming, pounding and baking the roots on a kiln they have for the purpose."² When we turn to the original MS. of Lewis and Clark's expedition³ we read under September 20, 1805: "those people gave us a Small piece of Buffalow meat, Some dried Salmon beries & roots in different States, Some round and much like an onion which they call *Pas she co* [*quamash*. *The Bread or Cake is called Pas-shi-co*] Sweet, of this they make bread & Supe they also gave us, the bread made of this root all of which we eate hartily," and "emence quantity of the *Pas-shi-co* root."⁴

It will be observed that Biddle, the editor of the original work, corrected the MS. text with the aid of Gass's statement, and thus perpetuated a blunder, for *pasheco* is really the Shoshone name of the plant meaning "water seego,"⁵ and the people of the expedition could not have heard the word *quamash* from the Indians of that locality. In Clark's Journal we still read under September 24, 1805: "*Pa-she-co* root of which they had great quantities dug in piles."⁶ On October 1, 1805, Clark recorded "*Pashequar* root and *Pashequar marsh* [*mash*] or bread."⁷ On the same date he spoke of "*pash-he-quar* roots,"⁸ from which it is clear that a word *quarmash* for *pashequar mash* was not yet formed or adopted by him. On October 21 he wrote, "Collins made some excellent beer of the *Pasheco quarmash* bread of roots"⁹ and again "Some verry good beer made of the *Pa-shi-co-quarmash* bread,"¹⁰ but on November 1 he already uses the abbreviated "*quarmash* roots."¹¹ We again have, by Clark, on March 29, 1806, "*pashaquar roots*"¹² and by Lewis, on March 30, 1806, "*pashequa*,"¹³ but on the same day Clark uses the expression "*quarmash roots*."¹⁴ Lewis uses now *passhequo*¹⁵ now

¹ Hosmer, *op. cit.*, vol. V, p. 483. ² *Op. cit.*, p. 141.

³ R. G. Thwaites, *Original Journals of the Lewis and Clark Expedition*, New York, 1905, vol. III, p. 78.

⁴ *Ibid.*, p. 79.

⁵ *Ibid.*, note.

⁶ *Ibid.*, p. 86.

⁷ *Ibid.*, p. 107.

⁸ *Ibid.*, p. 108.

⁹ *Ibid.*, p. 142.

¹⁰ *Ibid.*, p. 145.

¹¹ *Ibid.*, p. 186.

¹² *Ibid.*, vol. IV, p. 217.

¹³ *Ibid.*, p. 219.

¹⁴ *Ibid.*, p. 221.

¹⁵ *Ibid.*, p. 234.

quamash,¹ and for the latter date, May 2, 1806, Clark similarly writes *quamash*.²

It is not necessary to pursue the matter further, for it has become clear that Lewis and Clark are directly or indirectly guilty of the truncated *quamash* from the hybrid "*pasequa mash*," and that the foundation for this American abbreviation was laid by Clark in October, 1805. When the French Canadians arrived in 1812 they brought with them the new word which, like Columbus's *canoa*,³ had swept over America and the world as connected with the discovery of the Northwest. Thus once more a ghost word becomes connected with a new chapter in history, and this, with the attachment of the French article, after 1812 enters the Chinook jargon and spreads among the native races. That it was already known to the traders under the name created by Clark is shown by the shorter *kammas*, also recorded for the jargon. But Nootka *chamas* "fruit" has nothing whatsoever to do with the word, unless it was formed by an unrecorded earlier explorer in the same way. The short form *quarmash* was first used by Clark in writing on November 1, 1805, when he reached the Columbia, on which day he also used the Chinook jargon *cha-pell-el*, which he learned from the traders, for he says:

I cannot lern certainly as to the traffick those Ind. carry on below, of white people or the indians who trade with the whites who are either settled or visit the mouth of this river. I believe mostly with the latter as their knowledge of the white people appears to be verry imperfect, and the articles which they appear to trade mostly i.e. Pounded fish, Beargrass, and roots; cannot be an object of commerce with furin merchants. however they git in return for those articles Blue and white *beeds* copper [Tea] Kettles, brass arm bands, some scarlet and blue robes and a few articles of old clothes, they prefer beeds to any thing, and will part with the last mouthfull or articles of clothing they have for a fiew of those beeds, those beeds the[y] trafick with Indians Still higher up this river for roabs, Skins *cha-pel-el* bread, beargrass &c. who in their turn trafick with those under the rocky mountains for Beargrass. *quarmash* [*Pashico*] roots & robes &c.⁴

There is still another supposedly Indian word referring to food which Lewis and Clark have popularized, namely, *wapato*. In descending the Columbia they on November 4, 1806, "landed at a village 200 men of Flat-heads of 25 houses 50 canoes built of straw, we were treated very kindly by them, they gave us round root near the size of a hens egg roasted which they call *Wap-to* to eat"⁵ and "he gave us a roundish roots about the Size of a

¹ R. G. Thwaites, *Original Journals of the Lewis and Clark Expedition*, New York, vol. IV, p. 349.

² *Ibid.*, p. 350.

³ See my *Africa and the Discovery of America*, vol. I, p. 47 ff.

⁴ *Ibid.*, vol. III, p. 185 f.

⁵ *Ibid.*, p. 194.

Small Irish potato which they roasted in the embers until they became Soft, This root they call *Wap-pa-to* the *Bulb* which the Chinese cultivate in great quantities called the *Sa-git ti folia* or common arrow head, (*we believe it to be the Same*) it has an agreeable taste and answers verry well in place of bread. we purchased about 4 bushels of this root and divided it to our party."¹ On the same date Gass wrote, "the roots are of superior quality to any I had before seen, they are called *whapto*, resemble a potato when cooked, and are about as big as a hen egg."² Lewis and Clark went so far as to create a special division of *Wappato* Indians and even named the Columbia Valley *Wappatoo*,³ but the nomenclature has not survived for these Chinook people. Now, while *wappato* is the usual word for "potato" in the jargon, it does not exist in any Chinook language nor in Chihali. It is distinctly a traders' word, and no wonder; for the Indians where the explorers heard the word for the *sagittaria latifolia* were of all the Chinooks they met in the North given most to trading relations with white men, presumably French Canadians: "The Indians at the last village have more cloth and Uropean trinkets than above I saw some Guns, a sword, maney Powder flasks, salers Jackets, overalls, hats & shirts, Copper and Brass trinkets with few Beeds only,"⁴ and "Soon after Several conoes of Indians from the vilage above came down, dressed for the purpose as I supposed of Paying us a friendly visit, they had scarlet & blue blankets Salor Jackets, overalls, Shirts and hats independent of their usial dress; the most of them had either [*war axes Spears or Bows Sprung with quivers of arrows,*] Muskets or pistols and tin flasks to hold their powder, Those fellows we found assumeing and disagreeable."⁵ The *wappato* roots were an important object of trade, which was carried on with Indians toward the east. Now the French Canadian *la patate*, *la pataque* "potato" is found not only in Montagnais as *lapatat*, *tepatat*, but also far to the west, in Cree, where there is no *l*, as *napatak*. They also use for it *askipwam*, which refers to the "sagittaria," so that in the Cree mind potatoes and the wild roots are identical. The Chinooks up the Columbia must have traded overland and the Cree *napatak* or French *lapatate*, *lapataque* reached them as *wappato* to be used, as in Cree, indiscriminately for "potato" and "the edible root."

Summarizing the result of our investigation we find that the Chinook jargon arose from a transference of the Nootka-English jargon to the Columbia River, when other native languages and French and English overland added a few words to the vocabulary. This period lasts from 1797 to 1810

¹ See my *Africa and the Discovery of America*, vol. III, p. 196 f.

² *Op. cit.*, p. 160. ³ *Op. cit.*, vol. III, p. 202. ⁴ *Ibid.*, p. 195. ⁵ *Ibid.*, p. 197.

or 1812, when the arrival of the Canadian voyageurs, who married Chinook women, caused the infusion of a considerable number of French words, the nouns nearly always being accompanied by the article. By 1835 the formation of the traders' jargon was complete, and few changes have taken place since, so that we can observe the whole development within forty years of a new language, composite as to vocabulary, and in the simplicity of its structure and syntax resembling none from which it is formed.

2.

ACCORDING to Sir Harry H. Johnston¹ the dispersion of the Bantus took place some time at the beginning of the Christian era and proceeded from the valley north of the Albert Nyanza into a westerly and southerly direction, the first ending into the Semi-Bantu languages of the West Coast, the second wresting all but a small part of the lower third of Africa from the autochthonous races akin to the Bushmen and Hottentots. That such a dispersion took place only after the Arabic conquest of Africa is made incontestably clear from a study of the Bantu groups of words including the numeral "ten."

Arabic *ġama'a* "he collected, gathered, assembled," *ġam'* "collection, army," *ġum'at* "state of union, friendship" lead to *ġum'* "fist, the hand with the fingers put together and contracted in the palm, stroke with the fist, wound caused by the fist." In the finger language of the early Arabic traders, of which traces may still be found throughout Africa, a form of the hand was used to express "ten." Thus among the Masai and Nandi "the closed fist is thrown out and opened, the nail of the middle finger being at the same time clicked against the tip of the thumb,"² and, again, among the Hereros³ "ten" is expressed by striking the flat hands together. In Nubian, where curiously palatal *ġ* prevails for Arabic *ġ*, whereas in Egypt we get the Yemenite guttural *g*, we have *ġāma* "mosque," *ġamm* "to gather, agree, fit," *ġamman*, *ġamme* "together," *ġom* "to beat, play the flute, whistle," *ġomia* "a blow." The latter arises from the fundamental connotation of "fist," and this may be pursued in all its phonetic deteriorations as one proceeds from Nubia as a focus. We have Saho *gamad*, *gumade* "fist," Bedaue *amid*, *amīt* "to seize," *m'amāt* "fist," Bilin *emmer* "to close

¹ *A Comparative Study of the Bantu and Semi-Bantu Languages*, Oxford, 1919, vol. I, p. 15 ff.

² A. C. Hollis, *The Nandi, Their Language and Folk-Lore*, Oxford, 1909, p. 89.

³ H. Brinker, *Wörterbuch und kurzgefasste Grammatik des Otji-Hérero*, Leipzig, 1886, p. 79.

the hand," *emmerā* "fist," Gala *abode*, Chamir *buddā*, Amharic *butti* "fist," all of which bear witness to the fact that Egypt and Nubia are the countries of issue for the whole series.

The "fist" word reached the Berbers in a popular way, or, as Basset would have put it, at a very early time, for we have the popularly formed *tukimt* "fist," while in Shilha we have *kum* "to beat, wallop," *tukimt* "club, mace." In the Bantu languages we get the most complete series of "fist" words in Africa, so that we are at once confronted with the obvious post-Arabic migration of the Bantus, that is, within historic times, and the history of Africa assumes a totally new aspect. In the tenth century the Western Sudan was, according to Ibn Haukal,¹ reached from the northwest. No doubt the gold regions had been an object of expeditions much earlier and, from the conquest of Egypt in 642 to the conquest of the extreme Northwest, such expeditions would strike the country to the south of Nubia and passing through Kordofan would ultimately make for the Niger. Wherever the adventurers finally settled they would have to dislodge part of the population, and this is most likely the origin of the Bantu migration. The Arabic element in the Bantu languages which contains the root for "ten" shows conclusively that even the most distant tribes of this great linguistic family had been under Arabic influence before their dispersion to the west and south.

In the Nyanza languages "ten" is invariably *-kumi*, and here we have *-kuma* "to heap up, pile together, watch, take care of, guard, keep," *-kumu* "heap, any amount of," and that "to light, make up a fire," for which we have both *-kuma* and *-koma*, is a connotational development from the same root follows from *-komi* "bonfire," *-komera* "to heap up rubbish for bonfire." In Nyamwezi, where we have also *-kumi* "ten," we get *-kuma* "to heap up, be well known, bellow," *-kuminga* "to heap up, gather," *-kumilizya* "to honor, praise, admire," *-kumizi* "respectful," *-kumuka* "to be famous, notorious," *-kumya* "to admire, respect." Here *-kuma* leads to *-kumba* "to cover up, wrap, bellow," *-kumbata* "to embrace," *-kumbika* "to revere, respect." In Luganda we have the fundamental connotation in *kukumba* "to sweep up in the hands," *ekukumba* "to be assembled, gathered together," but *-wuluguma* "to roar," *empologoma* "lion." To get at the etymology of the latter we turn again to Luganda, where we find *-luguma* "to roar" and *luguma*, pl. *maluguma*, "a wound caused by striking, hole in the head," where we have precisely Arabic *al ġum* "wound caused by the fist," with the inclusion of the article. As to the meaning "to make a hollow sound, roar," which is found over the whole Bantu territory, we have already met it in

¹ M. Delafosse, *Haut-Sénégal-Niger*, Paris, 1912, vol. II, p. 13.

Nubian *gom* "to play the flute, whistle," and Nubian *gomia* "a blow," which is similarly universal in Bantu, is found in Luganda *-kundi* "navel, boss of a shield," *-kundula* "to gather up all that comes to hand," *-konde* "fist," *-konda* "handle," *-kondere* "trumpet made of calabash." Nyamwezi *-kundihana* "to gather," *-kundikila* "to cover" show an identity with the *-kuma*, *-kumba* words, while for "fist" we have *nhunzi*, pl. *makunzi*, "fist," which is related to Luganda *-konde*. We also have *ifune*, *mfune* "fist," but *f* is an unstable sound, which in Bantu arises from *h*, *k*, and other sounds. Indeed, we have Nyamwezi *-funa*, *-kuna* "to bend (the fingers)," which develops out of *-kunda* in *-kundama* "to embrace the head in order to duck it." Luganda has preserved the Arabic *ġama'a* "he collected, rebelled," as *jema* "to rebel," *jemula* "to subdue," while Nyamwezi has *-goma*, *-gomela* "to cuff the head, rebel, be ungrateful," *-gomeša* "to stir up a mutiny," *-gomoka* "to surrender."

For British East Africa Johnston also records *-kumi* "ten." We shall study the derivatives in Nika. Here we have *-kuma*, *-guma* "to appear great," *-kumia*, *-gumia* "to magnify, exaggerate," *-kumisa* "to count ten." By the side of *-konde*, *-gonde* "fist" we also find *-kundi* "flock, herd, flight, swarm, cluster, bunch," which illustrates the "heap" origin of "ten," while *-luguma* "wound caused by a blow" once more connects it with "fist." Like Nyamwezi *nhunzi* we also have *-konsi* "closed hand," while Arabic *kaff* "hand" is represented by *-kofi* "open handful, box on the ear." Nika *-kunga*, *-kungana* "to gather (as rain)" is the same as Luganda *-kung'ana* "to be assembled," Nyamwezi *-kundihana* "to come together," which show that *kung-* arises from *kundig-*. In Shambala, where "ten" is still *-kumi*, we find *-kumbo*, "handful, heap," *-kungañiza* "to bring together, collect," *-kunga* "to bend," *-kongana* "to assemble," *-konga* "to invite to common work, begin," *-koma* "to kill, make an end," which need no further discussion, but the latter throws a light on Nika *-koma*, *-goma* "to stop, put an end to," Luganda *-koma* "to end, cease," while Nika *-koma* "an evil spirit, supposed to be of some dead person" once more brings us back to the underlying "dead."

The unstable *f*, for the older *h*, *k*, that is, from Arabic *ġ*, has already been met with in Nyamwezi *ifune* "fist." In Nika we have *-fuma* "to growl, roar," *-fumba* "open handful, paw," and similarly in other Bantu languages, in which the substitution of *f* for *k* was probably aided by a root *fa*, *fu* of a totally different origin. Arabic *fuq*, *faq* means "to be above, slightly recuperate, be affected by panting, die, break, become emaciated, poor" and has entered very many African languages in a variety of meanings. We find

it in Berber *faq*, *fuq* "to finish, come to an end, exist no longer, be exhausted," *ifuq* "it's all up." In the Bantu languages we have Luganda *-fa* "to die, come to nothing," *-fu* "dead, out of repair," *-fi'ka* "to be over and above a total," Nyamwezi *-fu*, *-fwa* "dead, to die," *-fwafwana* "to be lost, spoiled," *-fwila* "to die," *-fwilwa* "to be in mourning," *-fwizila* "to curse (with death)," *-fwizia* "to get the better, cheat," Nika *-fu*, *-vu* "rotten, dead, meat which has died," *mafu* "dead, dried up, hard, difficult, matured, becoming," *fufu*, *uvuvu* "anything rotten, worn out," Shambala *-fa* "to die, go down, suffer, cost," as an infix "exclusively," *-fuwa* "to choke to death," *-fwila*, *-fwiza* "to rot, be overripe," *-figwa* "to be dead," *-fi* "dead as a doornail," *-file* "to be dead," Swahili *-fa* "to die, perish, lose strength, decay," *-fu* "dead." In the sense of "complete" we generally have in these languages the fuller *fuk-*, as in Luganda *-fuko* "crowdedness, quiver," *-fuka* "to pour out," but also *-fulube* "crowd, lot of things," Nyamwezi *-fuka* "to whirl around," *-fukila* "to fill up," *-fukuka* "to be in commotion," *-fufuka* "to be completely impoverished," Swahili *-fuka* "to fill up, emit, throw out," *-fukia* "to fill in, dig in, cover in," Shambala *-fuka* "to dig up."

Among the other Bantu languages we have similarly Kafir *-fa* "to be sick, ill, languish, die," *-fela* "to die for or in a certain place," *-fisa* "to cause to die," *-ili-fa* "that what is left after death, inheritance," *-faka* "to put, stuff, fill, cram into," Sesuto *-faea* "to break," *le-fa* "inheritance," *-fela* "to end, only, but," *-fu* "death," *-faka*, *-faḥa* "to cram, mix into," etc. In Sesuto we also have *-fuma* "to become rich," *-fumana* "to obtain," *mo-fumi* "rich man," *-fumanehi* "poor," *-humahali* "princess." In Swahili we have *-fumo* "chief," *mfalme*, *mfalume*, *mfaume* "chief, king, great man," which stand alone in Bantu and get an explanation only through the Mande. Here we have Bambara *fa* "to fill, complete, heap" and "to kill, massacre, cut, destroy," Malinke *fa* "full, satiated," *faḥa* "to kill, obstruct," Vai *fa*, *fare* "full, dead," Soso *faḥa* "to kill, perish," Dyula *fa* "to fill," *farha* "to kill," Khasonke *fa* "to be full," *faha*, *farha* "to kill, break." Outside of the Mande languages we have Hausa *faye* "to abound, excel," *farwa* "to kill, slaughter," Wolof *faissa* "to flay an animal" and "to fill," Peul *fu*, *fuf*, *fow* "all," *fawa*, *fawike* "to slaughter," *wara*, *mbara* "to kill," *faorde* "butchery," *pawoo*, pl. *farwobe*, "butcher." In Peul this Arabic root has produced *fa*, *ha* "a long time past, until," hence *hādde* "to come to an end, have enough," *hānnude*, *hāttude* "to be unable to pass beyond." Already in Berber we have *ifugen* "sovereign," that is, "surpassed by none," and this leads to Bambara *fama* "powerful, rich man, king," *fanga* "power, force, authority," *fantan* "without power, poor, miserable," Malinke *fanga* "power, authority," *fangama*

"strong, powerful," *fangantan* "powerless, poor," *fama* "powerful, influential man, king," Khasonke *fa'na*, *fanga*, *fanka* "authority," *fankama*, *fankamala* "king," *fantan* "poor," Dyula *farhama* "king," *farhandē* "poor." Even as Bambara *fa-ba* "he who kills" lies at the foundation of Peul, Hausa *fawa* "to slaughter," so Malinke *fama* is responsible for the Bantu "king" words. We can study this best in Kongo. Here we have *-fwa* "to die, perish, expire, decay, be worn out," *-vwa* "to be done, finished, expire, be perfected, completed," which leads to "property, wealth, to own, possess, have," *-vwama* "to be rich." The phonetic and connotational influence of this group upon the older "heap" series is especially marked in the Mande languages of the so-called *fu*-group, where "ten" was taken from it as *fu*, though this also means "nothing, useless." As the Bantu languages did not make that substitution, it follows that the Bantu migration took place earlier than the adoption of the new "ten" word into Mande.

In the southern Bantu the two "heap" roots run into each other. We have Kafir *-gquma* "to roar as a lion or the sea," *-nqum* "to cease, leave off," *-nqūma* "to kill with one decisive blow," *-nqumba* "to be in a heap, full, satiated," *-nqumbi* "anything heaped or poured into a heap," *-quma* "small bundle which can be carried in the hand, heap of grain," *-qumba* "to swell out, heap," *-ngqimba* "thickness, great number, in a heap," but also *-fumba* "to pile, heap up," *-fumbata* "to close the hand, making a fist." The extreme southern Bantus have well preserved the Arabic *ġam'*, *ġum'* root, without the excessive phonetic deteriorations, which is apparently to be explained by the earlier migration of the southern Bantus, who were constantly moved onward by the pressure of new hordes from behind. In Kafir we find *-dimba* "nation, people, things innumerable," which is also preserved in the Arabic form in Peul *d'ama'a*, Swahili *-jamaa*, etc., and in Kafir *-dumba* "mass, heap" we have an older form of *nqumba*. The case is more interesting still in Sesuto. Here *k-* of northern Bantu remains *k-* or more generally changes to *kʰ* or *h* before *a*, *o*, and to *s*, *ʃ* before *e*, *i*, hence we get *-homa* "end, to turn back," while *-some* "ten," *-sumela* "to eat much," *-šome* "ten," *-šomi*, *-šomo* "body of men, work" point to an original *kiom* or *kium*, that is, to Arabic *ġum'*. In Sesuto, too, we have a confusion with the *fum*-root, for, by the side of *-soma* "to work," we also have *-soma* "poor," but this may be merely a development from "to work."

Johnston has shown¹ that *-kumi* "ten" passes through the changes *-gumi*, *-humi*, *-kfumi*, *-sume*, *-jema*, *-kumbe*, etc., until it reaches *-kwini*, *-kwi* in the

¹ *Op. cit.*, vol. II, p. 475.

Southwest. Thus we find in Ubundu *-kwi*, *-kwini* "ten," but yet *-koma* "to roar, bellow, be stout," *-konda* "to curve," *-kondeka* "to embrace," *-konga* "to gather," *-kongela* "to bring together, assemble," *-kumba* "to roar," *-kungula* "to collect, gather," which show that we are getting back toward the focus of distribution of these words, because the same forms are found in the corresponding latitudes in the East. This becomes even more obvious when we reach the Kongo language. Here *-kumi* "ten" is coexistent with *-kumika* "to render strong, sturdy, place on end, erect," *-kumpika* "to put together, arrange, set in order," *-kumama* "to be strong," *-kumba* "to make a noise, roar," *-koma* "to put more, add, nail up, fix," *-komakana* "to be piled upon," *-komana* "to crowd together," *-komena* "to press, urge," *-komenena* "to press in, cram, fill," *nkome* "fist, blow with the fist," *nkomwa* "nailing." Further to the north we find Mpongwe *igome*, *dwom* "ten," which becomes *-dom* in Dualla, and here *-doma* "to roar, yell, split wood" shows that we are still within the *koma* "beat" region.

In the so-called Semi-Bantu languages the *-kumi* "ten" derivatives do not exist, from which it follows that the dispersion of the Bantus is of a later date than the settlement of the Semi-Bantus in the West and that their pre-migration home must have been in Nigeria, not far distant from the Hausas, who have *gama* "to collect, unite, gather, finish," *gami* "to gather, mix," *gamu* "to meet," *gamua* "meeting," *goma* "ten," but similar "ten" words are found far to the east, as in Margi *kumã*, Imbana *jomma*, Bagirmi *dokkeme*. A curious confirmation of the existence of a traders' path from the Nuba region to the Western Sudan is found in the Peul form for "ten" as *sapo*, which also means "to point with a finger." In the Kunama language of the Abyssinian region¹ we find *kol-lakada* "ten," originally "hand-stand," because in their finger language they form their numbers by closing successively a finger until the two fists are suddenly opened and thrust in front of the interlocutor's face. But they also say *sēba* for "ten," especially in the higher numbers, "twenty," etc. Far to the west the Peul *sapo* leaves no doubt that we have in both Arabic *šaba'a* "he pointed with the fingers."

In the Mande languages the continuous Arabic influence has caused a closer adaptation to Arabic phonology, besides the older native transformations, hence we have not only Malinke *d'amã* "assembly," *d'amani* "province," *d'amo* "to speak," *d'amu* "family name," but also a whole series of *kuma* words, which, however, have become contaminated by a number of

¹ L. Reinisch, *Die Kunama-Sprache in Nordost-Afrika*, in *Sitzungsberichte der kaiserlichen Akademie der Wissenschaften zu Wien*, vol. XCVIII, p. 161 ff.

homonyms, or have entirely disappeared from Malinke and Bambara and yet are fully preserved in Mende and other dialects which have been spared the later direct Arabic influence. In Mende we have *kuma* "company," *koma* "place of gathering, assembly, feast, encampment," *kōme* "assembly, meeting, convocation," *gōme* "to assemble, meet, convene," *gōma* "the place of feasting, feast," *kāma* "feast, place of assembly," *gama* "place, front, post, position, in, at, towards," where the transition from Arabic "heap, assembly" to the Mende proposition of place is obvious. The Arabic phonetics are better preserved in *jombo*, *sombo* "to assemble, meet together," from which we get *jamba*, *samba* "to give or send a present to a friend," *samba* "present; a leading Sanda member, who, dressed in leaves, appears in the town and assembles the girls for initiation," *sambele* "a kind of vegetable sauce, palaver sauce," *jambō*, *sambō* "to disgrace, dishonor, reproach," all of which refer to actions at a palaver or reunion.

In the latter word we can trace the constant contamination with the Arabic root *qwm* in *qūm* "heap, capital, funds," *qaum* "to perform, complete," *qīmah* "value, price, worth," *qaumah* "revolt, sedition," *qayyīm* "governor, chief." The latter has the plural *quwannu*, hence we get Hausa *kai*, *qai*, pl. *qawuna*, *qawanua*, *kanua*, "top, summit, sum, substance or chief point of a statement, chapter of a book," while in Peul we have *ho'*, *hore*, pl. *ko'e*, "chief, leader, head, self, before, near." In Mende we have not only *ngumā* "bundle," but also "head, preëminence," where the "heap" and "head" roots are fused. We also have *ngūmba* "top, summit," *gomba* "housetop," and, corresponding to Hausa *kai*, Peul *ho'*, *ko'e*, also *ngū*, *wū*, *ngūi*, *wūi* "head, leader, top, handle," *ngū yēla* "one head, twenty." For *ngūmba* we also find *wūmba* "in the head, top, uppermost part," *wūmbu* "to take up, lift up," and *ngoma* "place of weeping, weeping," *wūma*, *pūma* "place where something is deposited," *kāmba* "grove, grave, tomb" show that "assembly" was associated with the Arabic saint's tomb, hence with death. As usually, we have the abbreviated *wō*, *ngō* "cry, voice, word, report, advice," even as *kuma* "company" contracts to *ku* "company, group, herd." That the original word for "head" was *kūma*, *ngūma* follows from *ngūmāō*, *ngūmau*, *wūmāwō* "to redeem," literally "to make a present on the head," the latter from *wō* "to give with a following, to present with," as appears from the other Mande languages, Soso *khunsara*, literally "to pay the head," Malinke *kūn mabo* "to get back the head," etc. The "heap" meaning is preserved in Mende *kombo* "to increase, enlarge, multiply." Whether in any of the preceding Mende words there is a contamination of Arabic *ḡm* by *qwm* or not, the native mind conceived them invariably as derived from the first,

as has already been shown in the *jamba*, *samba* words, to which we can now add *jembe* "to be large, grown up," *sembe* "of medium size, more, most," *seme* "a house with open sides for public assemblies," *jāma*, *sama* "chieftain, prince, to become independent of labor."

We are now prepared to approach the ample, but fragmentary, evidences of the enormous influence of Arabic *ǧm'* and *qwm* in Malinke, Bambara, and the other Mande languages. That both Arabic *ǧam'* and *ǧum'* were employed by the Mandes is proved by Khasonke *kamari* as well as the Mende *jama* words discussed above. In Malinke, Bambara, Khasonke *kafu* "to assemble, canton, district" seem to point to *ka* "assemble," which we actually have in Mende *kā*, *kānjo*, *sāma* "agreement," where the latter two are clearly derived from Arabic *ǧam'*, while in Malinke and Bambara, we have the nasalized *kā* "voice, sound, accent, word, neck of an animal," *kan* "on, upon, more, to add," which most likely belong here, and these are mere variations of Malinke, Bambara *kuma* "word, discourse, expression, to speak," abbreviated to *ko* "fact, event, conduct, thing, to say." Similarly Dyula *koma* "palaver, history, word" leads to *ko* "to speak," while in Vai we have *kona* "palaver, matter, cause, concern," hence *ko* "palaver, matter, reason, word, objection, affair, news, concern, opinion, judgment," *koari* "to speak, sound, blame, rebuke, quarrel," that is, in all of these we pass from "meeting place" to "palaver place," from which all the meanings arise. From Arabic *qwm* we get Malinke, Bambara *kun* "head, extremity," hence *kuntigi* "chief, superior," but *kun* also means "spirit, good sense, cause" and we have *kuna* "chance, fortitude, shame, character," which, like Hausa *kuña* "shame, bashfulness, good manners," is similarly derived from the same Arabic root, which leads to *maqām* "sanctity, dignity, honor, character," from *qaum* "to rise to honor one." As the Arabic possesses *qām* "to preach a sermon, utter a discourse" it will be observed that here Arabic *qwm* has obtruded on *ǧm'*, as before.

We are now able to show the Mande origin of a large number of Bantu words heretofore omitted from our discussion. We have Kongo *-kuma* "reason, cause, responsibility, affair, blame," which coincides with Bambara *kuma* "speech, expression," but even more with the abbreviated *ko* "affair, act, thing," etc. That all these are identical appears from the abbreviated Kongo *-uma* "palaver, word, cause, matter, fault," etc. But we also have Kongo *-d'ambu* "palaver, affair, action, event, fault," where the derivation from Arabic *ǧama'a* "he assembled" is obvious. We have already met with such *-ba* derivatives in Mande, to which may be added Bambara *kamben* "to meet," Malinke *kūmb* "to meet," *kūmba* "large." We also have Peul *d'ambu*

"to scold, calumniate," which is even nearer in form. In Nyamwezi we have *-gamba* "to accuse, denounce, betray," *jomba*, *lyomba* "to say." We have already found Luganda *-kumba* "to be assembled, bellow," by the side of *-kuma* "to bellow," but we also have *-gamba* "to say to," *-gambo* "word." In Swahili *jigamba* "to vaunt oneself, brag, boast" is found by the side of *-jambo* "matter, thing," *-amba* "to speak against, denounce, slander," which completely coincide with Peul *d'ambu*. Here we can study the "assemble" origin of "to speak." We have *-ambika* "to hold together, be firm," *-ambisa* "to bring together," *-ambata* "to be close to," which arise from "to assemble," hence "to speak" is of the same origin. In the sense of "to be in contact" *-ama* is found over a large territory, as in Sesuto *-ama* "to touch."

With the arrival of the Arabs several traders' jargons were formed in the country traversed by them. Fortunately we can watch the formation of a new *lingua franca* in the Congo region, from which conclusions may be drawn to similar processes in the past. The opening up of the upper reaches of the Congo River to trade has called forth the necessity for a simple traders' lingo among the many varying dialects of Bantu existing in that region:

Seeing the difficulty the Government decided some years ago that "Bangala" should be used as the *lingua franca*. It is to be regretted that no official gave the Ngala (*i.e.*, the language spoken by the tribe of people living about Nouvelle Anvers) scientific study. Had a simple Vocabulary and Grammar been drawn up and published some years ago, we might now have been in possession of the common effective means of intercommunication between white man and black man, administrator and subject, which is daily becoming a more urgent necessity. As it is, out of this felt necessity has grown up a jargon called "Bangala" which is spreading rapidly over the whole of that part of the Congo basin which has never passed under the dominion of the Arabs. In the oriental zone a broken Swahili is, for the moment, a strong competitor—but even there "Bangala" is largely spoken by the Free State forces, and is now more or less spoken from the Atlantic to Lake Tanganyika, and from the region of the Upper Kassai to the Nile.¹

How has "Bangala" grown up? There are three languages spoken between Stanley Pool and Mobeka: the language of the Bobangi, that of the Lolo, and that of the Bangala peoples, and these have very many features in common, for these belong to the same branch of the Bantu language family. The dialects spoken in Lake Ntomba, and in the neighbourhood of Lulunga are but agglomerates of Bangi, Lolo, and Ngala. The so-called Upoto language is but a dialect of Ngala, with some elements both in grammar and vocabulary drawn from Ngombe and the language of Basoko. The observation has been advanced that Bobangi is the basis of the eclectic language called the "Bangala." This

¹ W. H. Stapleton, *Suggestions for a Grammar of "Bangala" (the Lingua Franca of the Upper Congo), with 2000 Words and Many Useful Phrases*, Yakusu, Stanley Falls, 1903, p. *e*.

observation is scarcely borne out by facts. It would seem to be nearer the truth to say that the features common to the three languages afore-mentioned with their dialects, are the basis of the "Bangala" language, and neither of the three languages has contributed more than the merest quota of their peculiarities. Historically, it is easy to see how this has come about. The workers for the State, traders, missionaries, etc., in the early days were drawn from the area lying between Stanley Pool and Mobeka, and a little later from as far as Upoto. These workers, being brought together on steamer and station, soon found the common base of their several languages, and used it as the medium of intercourse, and the white men picked it up from them.¹

When we turn to the grammar itself we find that the Bantu classes have been reduced to eight, practically to seven, since the last has but two words; the concord with the noun has completely disappeared and the adjectives have become indeclinable; adjectival phrases are formed by the particle *na*, which corresponds to the "belong" of the Biche-la-Mar and the "of" of English, thus once more destroying the Bantu concord; the concord has similarly been done away with in the verb, which has also lost the present-perfect and future tenses, so that Stapleton has to make a suggestion for the introduction of corresponding forms. This extremely simple Bantu Esperanto "is yet in the process of making and many words are not yet fixed. The inhabitants of the state stations and camps, traders of establishments, etc., will naturally use many words peculiar to the district in which they are living. With freer and more constant intercourse words will tend more and more to become fixed, and will then qualify for inclusion in the common language."²

Swahili has just in the same way been a Bantu *lingua franca* in the East, and Hausa still serves as such about Lake Tchad in the Western Sudan. The Arabic element in these is enormous, but much of it has not even been suspected by scholars, because it has entered them not with the spread of Islamism and Arabic higher culture, but by necessity of trade and among half-breeds of Arabic fatherhood and African motherhood, who in their turn became the traders and traders' intermediaries in the Western Sudan. Among the Mandes the Dyulas have arisen from a union of the Malinkes with women of other tribes,³ and their very name, from Malinke *d'ula* "colporteur," at once illustrates for Africa the phenomenon of a traders' jargon arising among half-breeds, as has already been observed among the Chinooks

¹ W. H. Stapleton, *Suggestions for a Grammar of "Bangala" (the Lingua Franca of the Upper Congo)*, with 2000 Words and Many Useful Phrases, Yakusu, Stanley Falls, 1903, pp. *h* and *i*.

² *Ibid.*, p. 51.

³ M. Delafosse, *Essai de manuel pratique de la langue mandé ou mandingue*, Paris, 1901, p. 31.

of America. But here, within a Mande surrounding, the Dyula has departed very little from the Malinke, which, with Bambara, Khasonke, Wasalunke, goes back to the language of the Mande-Arabic half-breeds, the Mali, whose name is elsewhere shown¹ to refer to the position of lordship which they exercised in the Western Sudan, as the result of their trading propensities. But the Malinke and related dialects possess an enormous Arabic vocabulary of a popular kind, and this is so transformed by African phonetics and the tendency of a *lingua franca* for retrenchment that it has become unrecognizable in origin. When we carefully study such words in connection with similar words from Nubia to the Niger, that is, along the oldest Arabic penetration, and in Hausa, Wolof, Zenaga, Berber, that is, in their geographical ascending path from the Western Sudan through the Sahara oases and along the West Coast, their Arabic antecedents are revealed automatically. This has so often been illustrated by my discussions of Mande words as to need no further evidence.

The intermediary traders, whether Arabs, Europeans, or half-breeds, of the Western Sudan, were known by the Arabic name of *tarǧamān* "interpreter," who among the Negroes were mentioned by the Portuguese as *tangomão*, "who carry cloths, iron articles, and trifles which they give for slaves, and these they fetch naked and in chains."² In Bambara we have *dalamena* "interpreter," still further corrupted to *kanamene*, *kaname*, while in Malinke we have similarly *dalamita-lila*, but throughout Africa this word has become hopelessly contaminated by an entirely different Arabic root. We have Arabic *rah* "to become brisk, lively, to go, journey, especially in the night," *tarāhu* "the camels returned in the evening," which is amply represented in the Berber languages, more commonly in the East, as in Siwa *gaḥa*, imperative *rōuh*, participle *yihin*, Rif *rah*, *trah*, *ruah*, *truah*, *awah*, *tawah*, Wargla *ah*, *tah* "to go." This word apparently entered by the way of Egypt, because here we find it very popular in Arabic, as in *rāh* "to go, depart," *rūh* "go away!" and it has found its way into Nubian as *tay*, *tayin*, *tañ*, into Somali as *tag*, *teg* "to go." In the Mande languages we have everywhere, side by side, a longer *-ma* form from the Arabic "interpreter" root, and a shorter, from the "go" root. Thus we have Dyula *tarhama* "to march, travel," *tarha* "to walk, go away," Bambara *tama* "march, voyage," *ta* "to go, depart," Malinke *taḥomo* "voyage," *taha* "to walk," but some Mande languages seem to possess only the second root, as in Mende *jia*, *li*, *ndi* "to go,

¹ See p. 93.

² I have treated this subject in detail in my *Africa*, vol. II, p. 105 ff.

travel." In Peul we have the fundamental *tahama* only in the contracted form *hama*, *kama* "to travel, act as a trader," while in Hausa we find it as *takama*, also corrupted to *tamaka* "to walk proudly, to sway the arms to and fro," hence Songay *tamba* "to be in a hurry," Wolof *diama*, *demma* "to go," but we also have the shorter forms, where the evolution from the Arabic root may be studied in full. Arabic *rāḥah* "rest, repose, joy" leads to Peul *raha* "joy," while Arabic *ruḥ* "go home" similarly leads to Peul *ruka* "to return, go home," *ruga* "resting-place." In Peul initial *r* is unstable and changes to *nd*, hence we also have *nduka* "to return." In the same way Arabic *rāḥ* "to walk," with a slightly softer change, due apparently to the alternate Arabic form *tarāḥa*, Dyula *tarha*, becomes *yaha*, *nd'aha*, even as we have in Mande Soninke *daga*, *ndaḥa* "to walk," Wolof *doḥa* "to march," Hausa *tahi* "to go, travel," *taho*, *tafo* "to come," *zaka* "to go."

The same *-ma*, *-mba* forms are found throughout the Bantu territory. We have Swahili *-tamba* "to walk, travel, strut proudly, walk in a swaggering way, leap, triumph from victory." To understand the underlying connotation of "to swagger" we need only turn to Hausa *raha* "to exult," *yin raha* "to speak proudly," which arises from the "to be lively, joy" of the same Arabic word. In Swahili *-tambo* "long stride, swaggering walk, length, distance, height" we see how from "stride, straddle" we pass to "measure, distance." Nyamwezi *-tamba* "to don battle attire," *-tambalala* "to be long (of a way)," *-tambuka* "to leap over," *-tambya* "to arm one's men," *-tama*, *-hama* "to remove, banish," Sesuto *-tamola* "to stretch, expand, press out," Kafir *-tamba* "to move in regular or measured circles, as soldiers wheel in exercise," Kongo *-tama* "to measure," *-tamba* "to extend the hand or arm, offer, show," etc., we have further developments of "to stretch."

We also have a Bantu *taga*, corresponding to Mande *taḥa*, *daga*, with the meaning "to spread," hence "to scatter, throw away," as in Nyamwezi *-taga* "to throw away, scatter," hence "to throw away a slave's body in the bush," *-tagala* "to lead to death," *-tagala magulu* "to spread the legs," *-tagamba* "to be bandylegged," *-tagana* "to split, differ in opinion," *-tagila* "to throw away, kill," Swahili *-tagaa* "to walk fast, stride, straddle," *-tanga* "to go to and fro, stroll about, wander," *-tangaa* "to spread about, be in vogue," Kongo *-taka* "a wooden hook or hitch, a short, straight piece of wood fastened in the center of a fishing line, which, when swallowed, hitches crosswise, and so the fish is caught," *-takala* "to waddle," *-takula* "to throw away, toss, cause to dance," etc.

In the Mande languages we have Mende *tāmbō* "to stretch, straighten," *dambō* "to lift up, walk erect," *lāmbu* "to stretch out," *lame* "to stretch

oneself," which look like derivatives of *tama* "to walk," but in reality are of a totally different origin, as follows from a comparative study of Sudanic "straight" words. Arabic *'adl*, *'adlān*, *i'tidālān* "just, straight" is represented in various Berber languages, as, for example, in Shilha *'addel*, *t'addel* "to improve, bring to a balance," *'ādel* "to be just, excellent," which leads to (Berber) Kandin *dedei*, and to Hausa *daidai* "straight," Malinke *tilin*, *tel-indin*, *telene*, *terene*, Bambara *telenda*, *telene*, *tele*, Soso *tenhen*, *tinhin*, Kono *tande*, Vai *tande*, *tan*, *ten*, Soninke *telegonte*, *siginte* "(to be) straight." The Mende forms show that a confusion took place between the "straight" and "stretch" words, which, as in Vai *tande*, lead to a new root *tand-*, which is amply represented in Bantu. In Kongo we have, side by side, *-tanta* "to stretch," *-tamba* "to extend," *-lambuka* "to stretch, lengthen," all of which are represented in the Mande languages, and the root *tand-*, *tant-* is further found in Swahili *-tanda* "to spread," Zulu *-thandabuza* "to travel far," etc.

The Bantus stand in some kind of relation to the Peuls, as well as to the Mandes. There is at least one true Peul word throughout the whole Bantu field, which is absent from the Semi-Bantu, except the Munsu, where it is clearly a late borrowing. Here we find for "to go," beside the apparently native *yem*, *yom*, *biri*, also *-dza*, *-ja*, while for "travel" we have *-dzende*, that is, we have Peul *nd'aha* "to go" and *yahande*, pl. *d'ahande*, "caravan" respectively. Throughout the whole Bantu field we have *-ya*, *-ja*, *-d'a*, *-ta* "to go," which coincides with the corresponding Mande and Peul "go" words, but we also have the very popular, but generally antiquated, *-yenda*, *-genda*, *-enda*, which no doubt go back to Peul *yahande*, pl. *d'ahande* "caravan." This Peul root was at one time very popular throughout Nigeria, where we have not only Malinke, Bambara *yala* "to walk," from Peul *yila* "to walk," but also Nupe *za*, *zaza*, *zan* "to walk, travel," Gbari *za*, *zaza*, *azna*, *ezna*, *uzna*, *azan* "to walk, go, travel," Mosi *kyenghe* "to walk, go," *kyende* "march," *kyekyekende* "caravan," all of which point to an acquaintance with Peul *yahande*, *d'ahande*.

It would seem that we already have enough coincidences in Bantu and Mande to establish the proposition that the two belong closely together in so far as the formation of the vocabulary is concerned. But we are not yet through with the homonyms of the type *tama*. We have in the Mande languages Malinke, Bambara *tama* "cheek, forehead," which in this sense occurs only in the Bantu languages. We have Swahili *-tamma* "a mouthful of water so that the cheeks are extended, last drop, sediment," *ku šika tamma* "to hold the cheek, to put the hand on the cheek while the elbow rests on the

table or on the knee, the mind being absorbed in meditation or grief." In the Western Sudan we have similarly Wolof *demmu* "to hold the head with the hand," Hausa *tamma*, *tamaha* "to think, reflect, meditate, hope, wish," Peul *tamaho* "to think, believe," Mende *tāma* "disappointment, deception, foolish, vain," Vai *tamara* "foolishness," Kabyl *ṭamma*, *ḍemma* "to wish eagerly, covet," which are all from Arabic *ṭama* "covetousness, greed." In the Bantu languages we have Nyamwezi *-tama* "to long, be hungry," *-tamila* "to fill the cheeks in hunger," which give us another transition from "to covet" to "cheek." In Shambala we find both *-tama* "cheek" and "promise," and *-tamaa*, *-tamala* "lust, desire"; Sesuto has *-thama* "cheek," *-thamo* "extended cheek, mouthful, large quantity," *-thama* "to wish," *-thamatlamisa* "to bother with much questioning or much begging"; in Kafir we have *-tamo* "mouthful, cheek." It is not necessary to give the "cheek" words in the other Bantu languages, as sufficient has been quoted to establish the identity of its origin with the Malinke, Bambara "cheek" words.

In Nyamwezi we have the following "spear, pierce" words: *-čima*, *-kima* "to pierce, prick," *ičimu*, *ikimu*, *isumu* "spear," *-suma* "to sew, weave," *-somola* "to pierce, patch," *-fuma* "to bore through, come out (of the sun), begin, arise," where the great variety of the initial consonant indicates an unusual, foreign sound. In Swahili we have *-fuma* "to shoot, pierce, weave," *-fumo* "spear," *-čoma* "to pierce, stab, prick, apply fire to, give pain," *-čomo* "burn, stab, prick," *-tomoa* "to pierce, break through"; in Sesuto, where an initial *r*, which varies with *th*, occurs, we have *-ruma* "to put on a border," *-rumo* "spear," *thuma* "to strike with a stone," *-thumolo* "provocation." Similar forms are found elsewhere. In the Mande languages we have Malinke *tama*, *tamba* "spear," *demo* "to hunt," *dimi* "to give pain," Soso *tanmbe* "lance," *tumbe* "thorn," *tumba* "to pierce," Dyula *dami* "to hurt," *dā* "to weave," Mende *temba* "sharpened sticks set in a ditch for defence," *tāmbē* "thorny rattan," *nemu* "to hurt, wound." The words so far discussed suggest an older *ram*, *ramb* as the root of issue. Indeed Arabic *rami*, *rama* "he pierced with a spear," *ramḥ*, *rumḥ* "spear" lead in the Berber languages to Tashelhit *rrami* "one who shoots," Shilha *rrāmi* "shot, hunter," Zenaga *germith* "hunt," *germi* "to love," *rabb* "weaving," and this produces Wolof *raba* "to weave," *reuba* "to hunt," but also *diama* "to wound, pierce, kill what has been shot," Peul *labbo* "spear, harpoon," *labbi* "knife." We can easily determine what contamination made the form *ram*- change to *rab*-, *lab*-, for Hausa *harbi*, *halbi* "to shoot, sting, kick" is found at Arabic Wadai as *harba* "spear," and this is from Arabic *ḥarbah* "dart, javelin, thrust, stick, stab, spoliation."

The most startling proof of the Nigerian origin of the Bantus is found in the numerals for "two," "three," "four," and "five." In the Arabic celebration of the circumcision, some poor boy, whose parents could not afford the expense, was carried in the procession on the same ass or horse and underwent the rite with the celebrant. Such a fellow, though not especially referred to by name in the accessible literature on the subject, was naturally a *fulāni* "so and so." In Berber the term for "so and so" is *flani*, *frani*, but among the Mandes the "so and so" of the circumcision became a person of great importance, and throughout life was closely allied with his mate.¹ We have Malinke *fulanī* "twins, two boys circumcised at the same or nearly the same time," Bambara *fulani*, *flani*, *flaniu* "twins," *fulamā*, *flamā* "of the same age, contemporary." This becomes in Peul *funere* "equal," *fune*, *funere*, *punēdo*, pl. *funēbe* "twin," which lead to Soso *gbuludi*, Soninke *fune*, Mende *fēla*, Vai *feranden* "twin," and to the "two" words in the Mande languages, Malinke *fula*, Bambara *fula*, *fila*, *fla*, Soso *firi*, Vai *pere*, Dyaklonke *fiddi*, Kpele *vere*, etc. The same gemination of the root has taken place in Bantu. Here we have Nyamwezi *-vili* "two," but *-fulama*, *-fulana* "to be like, equal"; but *-fulana* also means "to give to others what is left over," where the relation to "equal" is not yet worked out. In Swahili there is similarly *-wili* "two" and *-fanana* "to be equal, resemble," *kifani* "similar thing, match, fellow," *kifano* "image, likeness," *-fanikia* "to turn out well," *-fañikia* "to be done for the benefit of, turn out well for," *-faña* "to make, bring about a result," *-faa* "to be of use, help, be enough." That *fana*, which in other Bantu languages appears as *fwana*, arises from *flana*, is made clear from the identical process in Mande. We have Bambara *fana* "equally, alike, also, to give hospitality, denunciator," *faniña* "lie," *fale* "to exchange, change, substitute," Khasonke *fana* "also," *fani* "to lie," *falin*, *firhi*, *firi* "to exchange," Vai *fani* "to lie," *fara* "image, likeness," *faranda* "to change, exchange, transform, metamorphose," *fera* "two," *fere* "trade," Mende *fēle* "two, trade," Dyula *fana* "to lie, deceive oneself," *fila* "two," *fira* "to sell." In Swahili *-faña* "to do" we have the original connotation "to trade," which it likewise possesses, but we also have here *fafaniša* "to liken, make clear, explain," where we have Peul *fewa* "to make straight" and "to lie," *fēña* "to make clear, show" and *fēna* "to lie," both arising from *fēre* "different, another," which is clearly a "two" word. It is not necessary to adduce any other Bantu language for this group, which is universal throughout the whole territory.

Peul *didī* "two" is derived from Arabic *zauġ* "two," which in the Berber

¹ Ch. Monteil, *Les Khasonke*, Paris, 1915, p. 243 ff.

languages has led to Shilha *žuž* "two," Zenaga *žudan* "second." Similarly Arabic *tlata* "three" produced Hassania Arabic *thlatha* "three," *thālith* "third," in Peul reduced to *tāti*, *tāto* "three," and Bantu *-tatu*, *-satu*, *-ta*, but East-African *-tandatu*, *-sandatu* "six," which are obviously reduplicated *-tatu*, point to an original *-tantu* "three." In the Mande languages the original *salasa*, as found in the Arabic Beran, passed through an intermediate *sawasa*, *saḥasa*, leading to Mende *sāwa*, Dyula *sawa*, Malinke, Bambara *saba*, Soso *saḥā*, Dyalonke *sakka* "three," etc. That *salasa* is the real form for the Western Sudan to start from is shown by Hausa *sulusi*, Peul *sulusu* "one third," where Hassania Arabic has *thōleth*.

The Sudanic history of Arabic *'arbā'ah* "four" is extremely interesting. From the same root we have *raba'a* "he was affectionate, pitiful, compassionate, he acted with deliberation and in a leisurely manner, dealt gently, restrained himself, he behaved in a gentle and coaxing manner." From this we get Peul *lālabā*, *membra* "to touch, grope," hence the shorter *mēma* "to touch, grope," and the derivatives *lālāti* "to be spoiled, useless, lazy." In Hausa we have similarly *lalaba* "the act of fondling," *lalabe* "to touch, feel," from which are formed *lalači* "to perish, idleness," *lalaḥa* "idle, lazy, quiet, easy, tame, cowardly," *lalaši*, *lilaši* "to calm, appease, persuade," *lalata* "to linger about, be idle, worthless, mean," and *nema* "to seek, look for, search." But here we also have, from "four," *rabi* "half," *raba* "to divide, separate, leave," *raraba* "to divide, scatter." Hausa *nema* gives us the intermediary step to Peul *nena*, *nana* "to feel, perceive, taste, understand, know" and *nāi*, *nāyi* "four." In Bambara we have *lele* "to neglect," *nāni* "to caress, seduce, cheat, cajole," *neni* "to insult," *nege* "to flatter, cajole, envy, taste," *nene* "cold," *ne* "tongue." That "cold" is of the same origin follows from Arabic *rabī* "winter," but "tongue" is of a totally different origin and has coalesced with the other *ne*, *nene* words only by accident. From Arabic *kalama* "he speaks (magic words)," *kalām* "speech" we get the "tongue" words over an enormous territory. In Hassania Arabic we find *tkellem*, *tklam* "to speak" and this leads to Ashante *tekremā*, *tekyeremā*, *gyeremā*, Mosi *zilima*, *zilimde*, Kanuri *telam*, Koama *nandelem*, Kasm *dendele*, Peul *demgal*, pl. *demde*, Songay *dene*, etc., "tongue." In the Mande languages we can study the transformations best in Mende. Here we have *ne*, *neni* "to sweeten, taste, savor," *ne*, *nene* "to spy out, watch, seek for," *nehe* "to shift about in search of food," *nepo* "to appease, pacify, coax, caress, fondle," of which the latter comes nearest to Hausa, Peul *lalaba*, but we also have *lele* "slowly, moderately, without energy," *lēli*, *ndēli* "to wet, cool, appease, satisfy." On the other hand, the above-mentioned "tongue"

words lead to Mende *ndēla* "saying, telling," hence to *ndē*, *lē* "tell, say, speak, condemn, lie," *ne* "tongue," and the latter, as *ne*, *nē*, *nen*, *nene*, is universal throughout the Mande languages, where generally *nani* is "four."

In the Bantu languages we have universally *-ne* "four." In Nyamwezi we have *-nega*, *-ñega* "to jest," *-neganega* "to tickle in the ear," *-nenepu* "soft, gentle, smooth," *-nendeka* "humble," *-nendeku* "sweet, cold," connotations that follow from the corresponding Mande words, while the Peul "tongue" word is represented in *lulimi*, pl. *ndimi*, "tongue, speech." In Swahili we have *-ñega* "to cause to itch," *-ñegi* "itching, tickling, sexual excitement," *-ñea* "to cause a tickling," where we have the "touch" connotation of the corresponding Mande and Peul words, while in *-nena* "to say, speak," *ulimi*, *ndimi* "tongue," we have the Mande and Peul roots respectively. In Sesuto we have *-neneka* "to be slow, fondle," while in Kongo, where "four" is *-ya*, but in the dialects *-na*, and "eight" is *-nana*, we have *-anana* "useless, void, invalid," *-nangana* "to walk slowly," *-nangika* "to annoy, urge strongly."

Before turning to "five" it is necessary first to get out of the way another homonym *tam*, which has led to "ten" over a vast territory. Meinhof¹ uses the presence of *tomon* "ten" in Masai as a proof of a Hamitic origin of this root for "ten," but Eliot² has already shown that the "higher" numerals are expressed in Nandi and Masai by borrowed words or new formations. For "ten" he gives Somali *toban*, Latuka *tomon*, Nandi *taman*, Turkema *tommon*. It is true we find the Hamitic Bedaue *tamin*, *tamun*, Afar *taban*, Saho *tammān* "ten," but these are all under Arabic influence. Although they all have the Hamito-Semitic root *tam* "to finish," as in Saho *tamam*, Bedaue *temim*, Somali *dami*, the "ten" words differ in form, even as Nubian *dime*, *dimin* "ten" differs from the unquestionably Arabic *tim*, *timme* "to quit," *timēbu* "complete," while most Nubian dialects have a form *baru* for "ten." We have already learned that in the traders' language the "fists" represented "ten," hence it is certain that Nubian "ten" is in this case similarly derived from Nubian *dumme* "to seize, take," Somali *tāb*, *dab* "to catch, seize," which, although the root is also found in Hamitic, was for "ten" reintroduced by the Arabs, since in the Western Sudan, where we also have this "ten" root, it is not possible to find a Berber antecedent for it, and it must have been derived from the same source as the Nubian, that is, from the Arabic. Here we have *ḍamm*, *ḍabb* "to grasp," *ḍammah* "a handful," and from these we get Hausa *dame* "bundle, bunch, sheaf," *damkam* "heap,"

¹ *Mitteilungen des Seminars für orientalische Sprachen*, vol. X, 3, p. 123.

² A. C. Hollis, *The Masai*, Oxford, 1905, p. xxvii.

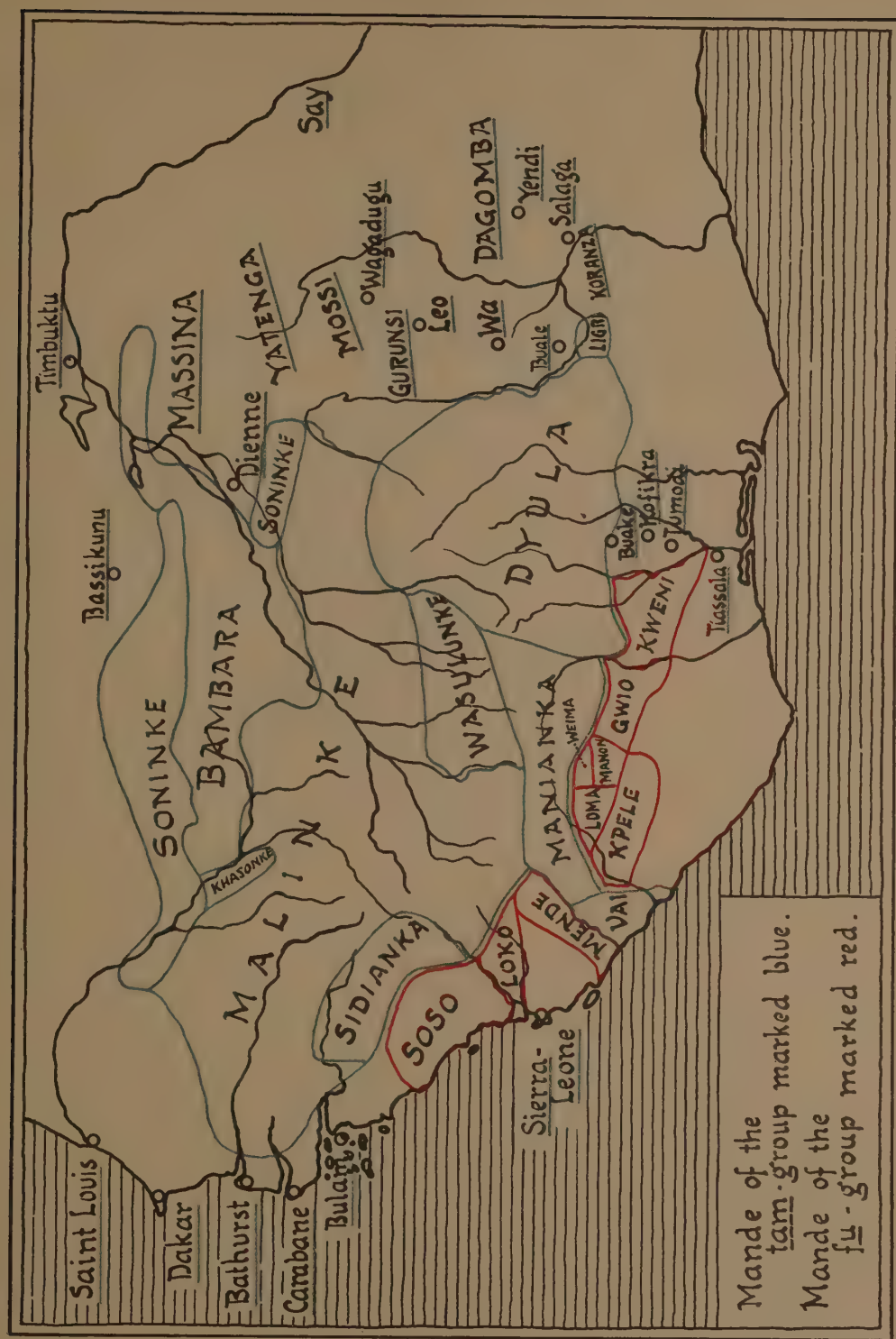
damke "to seize," *damfare* "to press, squeeze," *tamma* "to take, seize, touch, taste, bite," Peul *damre* "to bind, tie, gird," but we also have *dau*, *do*, *dauka*, *doka* "to take, take hold of," *dukia* "goods, property," which presuppose an older *dab*, and we actually find *debe* "to take away," by the side of *demi*, *deme* "sheaf," *demke* "to take a handful." In the same way we get Peul *tamre* "closed hand, thing held in the hand," *tamande* "fist," *tamde*, *tamba* "to hold in the hand," *tambāna* "to threaten with the fist," *daba* "to carry," *d'aba*, *d'ebu* "to receive, take off a burden," *d'eta* "to seize," which explains Wolof *d'apa* "to take, catch," *d'apu* "handle, thing held in the hand." In the Mande languages in which "ten" is *tam*, *tā*, we have *ta* "to take, carry off," while in Soso, where a trace of the older *tam* "ten" is found in the higher decimals as *tōgo*, we have likewise *tōgo* "to take, seize." In the Berber languages the forms *dab*, *tab*, *dau*, *tau*, *dauka* of the Peul and Hausa were taken as habitual forms of corresponding *ab*, *au* and have led to strange neo-formations, such as Shilha *āwi*, hab. *tāwi*, Zenaga *aude*, *okki*, Kabyl *ibui*, *au*, hab. *t'au*, Kandin *douka* "to carry, carry off," etc. In Wolof *yobu* "to carry off," it is hard to decide whether it is derived from Berber *ibui* or Peul *d'aba*. Many of the Berber dialects, such as Siwa in the East, do not possess this root, which therefore points to being a late introduction, a fact which is confirmed by its very sporadic appearance in Bantu. This strengthens the assumption that the Mande "ten" words *tam* and *fu* are of late origin and have crowded out the older *kuma*.¹

For the correlation of "five" with the Bantu forms it is necessary to give a fuller treatment of the Sudanic forms than is given in connection with the Maya *tun*.² From Arabic 'arram "to heap up" we get in the Berber languages Shawiah *t'arrem* "abundance, to abound," Mzab *tagimt* "heap," from which arise Hausa *tari* "abundance, plenty, much," *taro* "multitude, company, heap," *tare* "together," *tara* "to put together, collect, assemble," *tarsa* "to help," *tarie* "to meet," etc. For "to help" we have also the forms *taya*, *tannie*, and that these are of the same origin follows from the Peul, where we have *tara* "to wind around," *tare* "together, all at once," *taga* "to roll together," *taya* "to collect," but *tannie* and similar forms are due to a contamination with Arabic 'aun "help," which in Berber leads to *āun*, *t'āuan* "to help." In the Mande languages this form for "heap" is rare, as in Vai *tara* "to meet, find."

Here Arabic 'urmah "heap, pile" prevails. We have Malinke *d'urumo* "heap," which produces Wolof *d'urum* "five," but, as usual, only the apocopated forms survive, as in Peul *d'oure* "heap, undivided property," *d'oi*,

¹ See p. 128.

² See p. 143.



MAP OF THE MANDE LANGUAGES.

From M. Delafosse, *Essai de Manuel Pratique de la Langue Mandé on Mandingue*, Paris, 1901.

d'owe "five," *d'okkude* "to add," *d'ula* "trade," *d'ulanko* "trader," *tulde*, *tolde* "heap, hill," Hausa *doro* "hump," *dora* "to heap up, increase," *tulli*, *tilli* "heap, large store of anything," *tululu* "abundance, plenty," Bambara *tonkun* "anthill, heap," *to*, *tun* "heap," *tugu* "to attach, put together," *d'unkun*, *d'ungun* "hump," *d'uru* "rope, cord," Malinke *tuñ* "heap," *tuguñ* "again," *tugu* "to make a knot," *d'ula* "peddler," *d'urume* "to tie," *d'ulu* "a tie," *d'ungu* "hump." The "five" words in Mande have deteriorated even worse, for we have *duru*, *dulu*, *lolu*, *solu*, *lulu*, etc.

In the Bantu languages we have the same confused consonantism as in the Sudanic languages and the same connotational development as before. Corresponding to Hausa *tara* "to collect" we have Swahili *-tanga*, *-čanga* "to collect, gather together," *-čangaña* "to collect, mix, form into a mass, confuse," *-čango* "contribution, levy, muster," Nyamwezi *-ssanga* "to meet," *-ssangana* "to gather together," *-ssangizya* "to mix, combine," *-tangañika* "to gather in large numbers," Kafir *-hlangana* "to come, to meet together, assemble, unite," *-tlangano* "junction, union, alliance," *-tlangine* "abundance, great number," and in these languages we have *-tanu*, *-hlanu* "five" respectively. For "to help" we have, however, the pure Arabic *'aūn* form, as in Swahili *-auni*, *-awini*, Nyamwezi *-vuna*, *-guna*.

Mande *tuñ* is represented in Bantu by the root *tung-* with a very variable initial consonant. We have Nyamwezi *itungu*, *ifungu* "load, heap," *-tunga*, *-funga* "to tie together," *-lunga* "to weld together, season with salt." In Kongo *-tungo*, possibly through a contamination with the "lance, to sew" root, though not necessarily so, has led to "to sew, to construct anything which is made by tying it together with string, hence, because Kongo houses are made by tying the materials together, to erect, build, construct, put up, found, make a nest, a basket," but we also have *-lungisa* "to assemble, complete, make exact, give best, justify, pronounce innocent, commend," *-lungula* "to fill to overflowing, heap up, plenty, amass," *-lunga* "to come to, be complete, exact, just, right," *-wunga* "to suppurate, gather (as pus)," *-wungula* "to take many, plenty." Still more interesting is the evolution of this "heap" root in Swahili, where we have *-tunga* "to put together, put in order, connect, make, hang up," *-tungo* "way of forming, device, form, plan, idea, line," *-tunga* "a round, flat basket, used for sifting husks," *-funga* "to fasten, tie, secure," *-fungu* "heap, pile, portion, piece, lot," *-čungu* "heap, quantity, mass," *-čunga* "siftings, coarse particles," *-ungi*, *-wingi*, *-ingi* "much, plenty," *-unga* "to make a joining, season, anything powdered, flour, meal," *-ungu* "joining, member, part, backbone, round, flat basket used for sifting grain," *kiungo* "act of joining, member of the body, something which sea-

sons, sauce, pickle, salt," and the latter shows that *-čungu* "bitter, acrid, sour, disagreeable" is of the same origin.

The Bantu languages have a very important series of words corresponding to the *d'ula*, *duru*, *dulu* "pack, five" words in the Mande languages. We have Nyamwezi *-gula* "to buy and sell," *-gulugulu* "tricky," *lugulu* "hill, mountain," *-d'ola* "to sweep together, make a heap," *-tāla*, *-hūla* "to put down (a load), heap up, lay eggs," *-hulika*, *-fulika* "to be quiet, silent," *-lulu* "silence! hush!" and the latter shows that *-lalika* "to gather people," *-lala* "to sleep, lie down, totter," *-lalikila* "to give a night's lodging" belong to the same variety of this root as Hausa *tara* "to gather." The same correlation of "to sleep" and "together," from the custom of encamping, is found in Swahili *-lala* "to lie down, sleep, collapse" and *-lalana*, the reciprocal of *-lala*, which means "to sleep, eat, etc., together, be on intimate terms." In the other Bantu languages this form is universal. We have Kafir *-lala* "to lie down, sleep," *dala* "old, aged," *-lali* "gentleness, encampment, village," Sesuto *-lala* "to lie down, fallow land," *-laletza* "to invite to supper," *-lalela* "to lie in ambush," *talelo* "ambush," *-tala* "old inhabitant," Kongo *-lala* "to sleep, wear away, grow less, exhaust," but here we also have *-tulu* "sleep," *-tula* "to put, lay, set." We are now prepared to investigate the Mande correspondents to Hausa *tara*, which without the Bantu words of this group could not even be surmised.

We begin with the enlightening Mende. Here we have *nda*, *la* "to lay, place, put, enact, make (as a bed), set, arrange," *ndāma*, *lāma* "bedroom," *ndādo*, *lādo*, *ndālō* "to join together." That the latter fuller form also meant "to lie down" is proved by Peul *lēla* "to put down, spread out, offer for sale, encamp, lie down," *līla* "to spread out," Wolof *lal* "bed," *talal* "to lay down," Songay *dar* "to spread out, offer for sale," *dari* "bed," Bambara *lalan*, *dela* "bed," *dala*, *dla*, *da* "to lie down, put in order, spread out," Malinke *la* "to lie down, put down," *lalā* "bed," etc., but in the two latter cases *da* and *la* have become hopelessly confused with the "make" words of an entirely different origin.¹

As in Nyamwezi, so in Swahili the root *tul-* is more common, but here is more generally contracted to *tu-*. We have Swahili *-tulia* "to be quiet, calm," *-tua* "to put down, set down, decide, rest, bivouac, stop for the night, go down, set, become quiet, reform, cease from anger," *-tuana* "to settle down together, all join in making a camp, set things in order," which makes it clear how Hausa *tara* led to "to help." As in Swahili, we have the brief Kafir *-tu* "to be quiet" and the longer *-tula* "to take off from a shelf, leave off

¹ See my *Africa*, vol. III, p. 240 f.

speaking, be silent," *-tulu* "deaf, dumb," *-zola, -zole* "to be silent, calm," *-dula* "to lie as an inert mass," *-duli* "ant heap," *uduli* "The party selected or appointed by a bride's father to accompany her to her future home. The party consists of persons of both sexes, from five to ten in number. They carry the bride's outfit and presents to the bridegroom's village. They always contrive to arrive there in the evening, and sit down in a place where they cannot fail to be observed. Should they not be noticed, they call attention by coughing, as strangers coming into a place are prevented by Kafir etiquette from being the first to speak. When accosted they say they are a party of travelers who have been benighted, and would be thankful for a place to sleep in," etc. The whole custom is distinctly derived from the practices of the caravansary, which is also hinted at in Swahili *-tueša* "to pay an evening visit."

3.

THE importance of the traveling merchants in the Mexican state, as recorded by Sahagun and other early chroniclers, the frequent pictorial references to them in the Mayan and Mexican manuscripts, where they are almost invariably represented as Negroes, and the definite account of Negro merchants in Hispaniola, as referred to by Columbus himself, at once suggest the existence in America of a traders' jargon, identical with the Mande. This jargon must have exerted an influence more directly upon the Mexicans and the Mayans, in which the large element of Arabic words of the Mande type tells its own story. We shall here confine ourselves to the evolution of such words in relation to numerical and hieroglyphic concepts.

In Aztec there are three terms to express the complete number of tens, that is, "twenty," namely, *kimilli*, *tlamik*, and *poalli*. The first means "package, bundle of cloths, twenty," hence *kimiloa* "to wrap, cover, prepare for burial," *kemi* "to put on a dress," which in the Mayan languages leads to Pokonchi *k'em* "tissue," *kimi* "to die," *kamsa* "to kill," Kekchi *kem* "tissue," *kam* "to die, fade," etc. In Maya we have *kimi* "to die, fade, the sixth of the twenty days of the month" and the apparently contrary in meaning *kimak* "joy, contentment, peace." Besides, in the picture writing the skull, standing for *kimi*, represents "ten." We have already seen that in the Western Sudan, and even in Nubia, *kuma*, *kima* from the Arabic "to collect," leads to "to strike with the fist, kill, rejoicing, ten," and Friday, the "sixth" day, the day of assembly, is universally there expressed by a word of the same root, as in Wolof *ald'uma*, Malinke *ard'uma*, Hausa *aljumma*, *aljjimaa*, etc. This striking coincidence of four totally distinct connotations shows that the hieroglyphic use of *kimi* must go back to an older Mande hieroglyphic tradition

in the Western Sudan, since neither in Mande, nor in Nahuatl and Maya, has *kimi* maintained itself, but in both has given way to the same *tam* and *fu*, of which both were in the Western Sudan popularly derived from "to finish."

There was a short period in the Mande languages when "ten" was expressed by the root *dam* "to grasp," but immediately transformed to *tam* "finished," an Arabic word that may still be recognized in Hausa *tammāt* "it is finished," Peul *tamma*, *timo*, *tima* "complete, ready, finished," but in Mande has universally given way to *fu*, from Arabic *fuq*, except for *tam* "ten," retained by the so-called *tam*-languages, while the other Mande languages have equally substituted *fu* "ten" for the older *tam* "ten." In America the Nahuatl has the two "ten" words, which shows that the Mande influence began in Mexico during the *tam* period and was continued into the *fu* period. We have Nahuatl *tlamī* "to finish, come to an end, perish," *temi* "to be filled, replete, stretched out, lying down," in which it is difficult to determine whether Mande *dam* "limit" or the lost *tam* "finished, complete" predominates. However, that the first is more likely follows from the identical development as in Mande, for here, too, we get *tem-* in *tentli* "extremity, limit, mouth," which corresponds to Mande *dama*, *dan*, *dā*, *da* with the same meanings.

From *tlamī* was formed the "finished" count "twenty," namely *tlamik*, and *tlamini* "mortal, exhausted," but *tla-* was etymologized as the Nahuatl prefix and *mik-* "finished, dead" resulted from it, hence *miki* "to die, vanish, kill," with an enormous number of derivatives and the Mayance *muk* "to shroud, bury" formed from it. From *temi* "to lie down," hence "to sleep," we get *temiki* "to dream." From the corresponding homonyms we get an interesting series of Nahuatl folk etymologies. From Mande *tama* "lance, to shoot" we get Nahuatl *tlamintli* "wounded by an arrow or harpoon," hence, again considering *tla-* as a prefix, *mina* "to shoot," *mitl* "arrow." It has been shown that Mande *ta* "to take, carry" goes back to an older *tama*. To the words of this kind previously given may be added Mande *tame*, *teme* "load-carrying ox, zebu." In Nahuatl we have *tlamama* "to carry," hence, by the same etymology, *maitl* "hand." Again Nahuatl has Mande *fu* "finished, killed, ten" in *po-*, from which are formed *sempoalli* "one count, twenty," *poa* "to count, esteem."

The most remarkable coincidence of sound and meaning is found in the evolution from the Mande "two" and "four" words. That Arabic *fulani* existed in a very contracted form as *fu-* in the Western Sudan is proved by Bantu *fwana*, *fana* and Mande *fana*, *fune*, *fara* "equal," etc., and Malinke *fua*, *fuana*, *funa* "tender, soft," which may be of a different origin, but

coalesces with the first in meaning. In Mexico we have both Mande *fil-* and *ful-*, the second in the contracted form *fu*, with the identical basic meanings as in the Mande languages. We have Nahuatl *piloa* "to hang," but *teteč ninopiloa* "to attach oneself to another," from which it follows that "to hang" arises from "to attach oneself with a rope," from which we also get *pilkatiuh* "to follow, accompany another," which have already been shown to be derived from a composite root *bal, bil* "rope,"¹ but we have the *fil*-root in *pilli* "nobleman, grandee," that is, "one attached to the chief," and since such an attachment, as the Mande custom shows, was made in infancy, *pilli* also means "son" or "daughter," but that here, too, the underlying meaning is that of nobility follows from the suffix *-pil*, which means "gentle, little." But we also have *potli* "companion," used only as a suffix *-po*, as in *nopilpo* "a child like myself, my first wife," *tinopo* "you are my equal," hence *potia* "to make one equal with oneself, to unite things." By introducing the Bantu languages into the study of old Mande it was possible to separate homonyms and correct etymologies. Thus it has been possible to show that *nen-* "vain" is not reduced from *nema* but is transformed from the Arabic "four" root, and that *nen-* "tongue, speak," is obtained from neither but from Arabic *kalām* "speech." Whether Nahuatl *nawi* "four" is derived from the corresponding Mande "four" word or not, the coincidence of Nahuatl *nen* "in vain, useless," and *nenetl*, generally as a diminutive, *nenepilli* "tongue," is startling. *Nenetl* "vulva" is already recorded in Bantu, where we have Shambala *-nena* "matrix, vulva," Sesuto *senene*, Zulu *isinene* "apron covering the pudenda," etc. To the still more startling coincidence of "five" words in Nahuatl and Mande several chapters in the text of this book are dedicated, and so the matter need not be referred to here.

The Mayan languages contain only a small part of the Mande *lingua franca*, and invariably as derivatives from the Nahuatl, although a few terms are better preserved in Maya than in Nahuatl, where occasionally a native term has been substituted. The linguistic evidence is overwhelming in favor of a greater antiquity of the Mexican culture, not only from the linguistic standpoint, as appears here and in the following text, but even more convincingly from archeological considerations, which in each case lead us back to the Arabic prototypes of custom and belief, as shall be shown further on. Sooner or later archeologists will be compelled to accept this new viewpoint, and then only will it be possible to solve the riddle of the American civilization. This new period, I confidently hope, is near at hand.

¹ See p. 94 ff.

II.

The Philological History of Nahuatl *atl*.

IN Maya we have *ha*, *ab*, *haab* "water," where the last two seem to be *-b* derivatives of the first. *Haab* also means "year (of 365 days)," since the count of time is thus made dependent on the recurrence of the rainy season. We have similarly *habil* "year, time," for which the antiquated forms *ablil*, *yablil* are recorded, while *yaabal* means "plum-water, rainstorm during the plum season"; and *yaal* "liquid, water" shows that *ha*, reduced to *a*, has produced, as usual, the lengthened *ya*, hence *yaal* "liquid" and "to melt, dissolve." We have similarly Kekchi *ha* "water," *hab* "rainy season," *haha* "to fill with water," *ya* "liquid," *yaal* "liquid, water," *ab* "year," Pokonchi *ha* "water, sea, lake, bath," *hab* "rain, downpour, year," *habik* "to dissolve in water," *ab* "urine," *aban* "to drink," *abem* "to urinate," Uspanteca *ha* "water, rain, bath, river," *habal* "rain," *a* "water, river, liquid," Kiche *ha* "rainstorm," *habinik* "to pour (of a storm)," *habih* "to rain," *haarik* "to become water, dissolve," *a*, *ab* "water." In the other Mayan languages we find Mam, Chuje *aa*, Subinha *hā*, Chanabal, Jacalteca, Chol *ha*, Tzendal *haa*, Cakchiquel *yaa*, Pupuluca *lla*, Tzotzil *hoo*, Aguacateca *a*, Huasteca *iha* "water."

The same root is to be observed in Nahuatl *atl* "water, urine, skull, head, brain, war," in which all the last arise directly from "water." From *atl* are derived *ati* "to put oneself in the water, dissolve, become bright, rejoice," *atilia* "to liquefy, melt, shoot," *altia* "to put oneself in the water, bathe, immolate to the gods, make offerings." This latter term has been borrowed by the Mayan and other languages, for we have Huasteca *ācīn* "to bathe," *ācīš* "bath," Kekchi *atinq*, *atisi* "to bathe," *atinebal* "bath," Kiche *atin*, Maya *ičīn*, Zoque *tsingba*, *etspa*, Ayook *tsi*, *tsin*, *tsiip* "to bathe." In Nahuatl we have the *mo*- derivative in *maltia* "to bathe," of which the stem *ma*- is preserved in *tema* "to bathe," and from this we get *temaskalli* "bath-house." The unprefix form, as in Mayance, seems to have disappeared from Nahuatl.

Nahuatl *a*- is already a reduced stem, for we find longer forms to the north. In Opata *wat*, Eudeve *vat*, Cora *ahti*, Niquiran *at* we have *-t* corresponding to Nahuatl *-tl*, and Cuchan, Diegueño *aha*, Mohave *ahha*, Comanche *paa*, *baa*, *pahar*, Shoshone *pa*, *pah*, *poh*, Utah *pah*, Netela *pae*, Kizh *bar*, Tesuque *poh*, and similar forms in Californian languages point to *hwa* as the original

root, which is also the case for Mayance. In some of the Mayan languages we have the common phenomenon of a correspondence between *n* and *h*, as in Maya *kan* "heaven," which elsewhere is usually *kah*. In the Zoque-Ayook languages we similarly find such an *n* in place of the Mayan *h*, and here we find Zoque *na*, *nö* "water," from which a large number of compounds are formed, such as *nööhahi* "to be thirsty," *nöökom* "river," etc. In the Mixe dialects we have Oluta *nüöye*, Sayula *nüö*, Texistepec *dö* "water." In near-by languages on the Pacific Coast we get Trique *nehe*, *nee*, *ne*, Chocho *inda*, Mazateca *nduhua*, *nanda*, to which unquestionably is related Otomi *dehe*, even as far to the south we find Köggebani, Chimila *nü-take*, Guamaca *yira*, Atanques *dita*, Bribri *de*, *dī*, Guatuso *tī*, Rama *sī*, Cuna, Boruca, Tiribi *dī*, so that for Mexico and Central America we approximately have the reductions *hwa>wa>ha>na>nda>dehe*

nö>nü>ni>di>ti>si.

From this "water" stem there develops in Aztec a root "to throw with violence," which, as we shall later see, is an adaptation of a Mandingo "rain" term. Thus we get from *atl* "water" the new term *atlatl* "a throwing stick," so that *a-* is now connected with "war," hence we have not only *atl tlačīnolli* "water and fire (cast from heaven), war," but also from *auh*, *yauh* "water" we derive *yaotl*, *yautl* "enemy, warrior," *yaoyotl* "war," *yaotla* "to attack." From "water" we derive a number of derivatives with the fundamental meaning "to spread like water," such as *toyawa* "to spread (a liquid), drop, deep," *toyawi* "to spread (of liquids, flour, etc.)," hence *toyawilia* "to pour out, give to drink," *atoyawia* "to fall into the water, throw into the water, commit a crime, condemn to death," *atoyatl* "river," *tlatoyawalli* "spread, throw out (of a liquid)." The Aztec dictionary also records *tauḥ* "our brain, brain in general," which indicates the presence of *toauh* for any meaning the unsuffixed *atl*, *yauh* may have had.

From *atlatl* is derived *atlawia* "to shoot," and while *to-* derivatives of this *a-* are not recorded with the specific meaning "to shoot," they must have existed, since we have *mo-* words reported in the dictionary with meanings "disperse, destroy," which come close to it. We have *moyawa* "to spread, make turbid (a liquid), conquer, lose a reputation," *tlamoyauhtli* "dispersed, put to flight," *temoyawani* "one who disturbs, scatters people," *momoyawa* "to disperse, depopulate, spread, sow, destroy." This Nahuatl *moyawa* has been equalized with *moloni* "to bubble, swarm," and produced *moyoni* "to move, swarm," hence *moyotl* "mosquito." From *moyawa* "to

spread" we also get *temoyan* "place where the water descends," *temo*, *temowia* "to descend, fall down, digest." This leads to *Temoančan*, *Tamowan ičan*,¹ *Tamioyan ičan*² "the terrestrial paradise." That it originally meant "the place from which water descends" is proved by its synonym *Atlayawikan* "place of water and clouds."³ But this is only an Aztec philological speculation on Malinke *duna do arjana* "paradise."⁴

There is in Nahuatl a prefix *ki-* which seems to have a strengthening meaning. Thus we get *kisempakkayotl* "complete joy, prosperity," from *sempakka* "to give oneself over to joy," *kisentlamiani* "very courageous man," from *sentlamia* "to finish up, leave nothing," *kihiyotiki* "dangerously ill," from *ihiotia* "to breathe," but frequently this prefix does not seem to change the original meaning, as in *kitemasia* and *temasia* "to hope," and is frequently found in words ending in *-ani* and expressive of the actor, as in *kitoani* "speaker," *kittani* "seer," etc. In Nahuatl *kisa* "to go out, end, come forth, spread, escape," *kisoayan* "place where one comes out, door," by the side of *tlasa* "to throw down, despoil, reject (the placenta)," we have the root *sa* prefixed by the strengthening *ki*, and this root, which is apparently not recorded without the prefixes in Nahuatl, is found throughout Central America in the original Mande meaning of "rain" and in the newly formed concept of "to throw violently." Thus we have Zapotec *sa* "to throw away, cloud," hence *nisa* "water," *kesa* "emerald, precious stone," the latter being the usual Mexican connection of "water" with "turquoise." We also have Pokonchi *saarel* "to void," Kekchi *sa* "belly, in," and the borrowing from Nahuatl *kisa* in Maya *qasal* "rain," *qasil* "evacuation," *qis* "to flow from a full breast," Kekchi *k'isem*, Uspanteca *kisik* "to break wind." In Guatemala the ninth day is not called *atl* but *kiawitl*, which elsewhere in Aztec territory is reserved for the nineteenth day. This strengthened Nahuatl *kiawitl* "heavy rain" leads, as before, to *kiawak* "outside," *kiawak nitetlalia* "to kick out of doors," *kiawatl* "door." In Nahuatl we have the still stronger *tlapakiaw* "to rain incessantly," *tlapayaw* "to rain in sheets," hence we have in the Pipil of Salvador⁵ *tapayawit* "rain," while at Izalco⁶ we get *tapayagues* "rains which last 30, 40 or more days." We thus arrive at a new compound *paya*, *pakaya* for "violent rain," which leads to important results in the languages that have borrowed the word.

¹ E. Seler, *Codex Borgia*, Berlin, 1904, vol. I, p. 184.

² *Ibid.*, p. 157.

³ *Ibid.*, p. 313.

⁴ See my *Africa*, vol. III, p. 279.

⁵ M. Lehmann, *Zentral-America*, Berlin, 1920, vol. II, p. 1014.

⁶ *Ibid.*, p. 1046.

Nahuatl *tauḥ* "brain," as has been pointed out, also means "water," since *atl* "water" also means "brain," that is, "that which comes from the inside, which is thrown out of a pitcher, a skull." The Mayan languages have borrowed this Nahuatl *tauḥ* in the sense of "rain water, that which is thrown out." In Maya we have *tohol*, *tohlah* "to throw out," *toholbe* "to throw into the street," *tohpal* "to throw down with force." Similarly we have Uspanteca *toh* "to throw away," Kiche *toh* "to throw down, rainstorm," *Tohil* "the chief god of the Kiches," Cakchiquel *tohoḥ* "to thunder," Huasteca *tokob* "cloud." But we have already Nahuatl *totoka* "to run fast, increase, be violent, throw out, flow," as in *totoka eekatl* "violent wind," *tlatotoktli* "banished, exiled," and these have arisen from *totoyaka* "to run, be in a hurry," that is, from *toyawa* "to spread," so that we are again within the group of Nahuatl *to-* derivatives from *atl* "water." The most interesting series of words of this type is found in Ayook and Zoque. In Ayook we have *touh* "to shoot," *tou*, *too* "rain." In *tohkau* "door," *tohken*, *töḥkan*, *tok* "entrance, door," we have a root *tohk*, *tok*, apparently a development of the root *toh*, which even in Ayook must have meant "to throw out," to judge from *touh* "to shoot." We have similarly *tahap* "outside," *tahauh* "yard," which is related with "(to throw) outside," and Zoque *tuh* "rain," *tahapa* "to rain," *takaypa* "to enter," where we have the same relation as in Ayook *tohkau* "door," etc.

Nahuatl *moyawa* "to make water turbid, spread" has been borrowed by Mayan languages, where we find Maya *muyal* "cloud," *moankin* "rainy day," Pokonchi *muh* "shade," *muhul* "cloud," *muham* "to wet," Kekchi *mu* "shade," *moy* "turbid," *mo* "rust," Uspanteca *mu*, *mul* "to wet," *muh* "shade." We also have Ayook *muh* "to wet," *muḥaš* "to make mortar." From Nahuatl *temoa* "to descend, digest" we get *tam* "deep," and, rejecting the prefix *t(e)*, *emel* "to descend," *emelhanal* "to digest," while Nahuatl *tlamoyawa* leads to Maya *lam* "to sink into something." We have similarly Kiche *em* "to ditch water," Pokonchi *emel* "edge," which refer to keeping water in a waterhole. We also have Kekchi *tem* "bench," Uspanteca *tem* "beam," which simply mean "raised edge." In Ayook we have *tam*, *tem* "to spill water," where the original meaning of Nahuatl *temoyan* is best preserved. In Nahuatl, *temoa* also means "to seek," and from this connotation we get Huasteca *tam* "to meet," while *tama* "place, residence" is derived from Nahuatl *temo* "to descend," that is, we have here "place from which one descends."

Nahuatl *molotl* is translated by "pardal, gorrión," that is, "sparrow," but "pardal" also means "rainbird," and sparrows were unknown in America.

Besides, the dictionary gives for "pardal" also *kwačičil* and *teokaltototl*. The latter means "bird living in churches," and the first means "bird with the tonsured head" and refers to a song bird of considerable size, for which Siméon gives "pluvier, plover," but really "rainbird," so that whatever bird may be meant, we are dealing with a sacred bird connected with rain and referring to Nahuatl *moloni* "to form clouds." In the Mayan languages we have Kiche *mo* "falcon, mosquito," corresponding to Nahuatl *molotl*, but Kekchi *mo* "longtailed ara," Maya *moo* "guacamayo, ara, parrot," hence *moan*, as the name of a rainbird, whether it refers to a falcon or parrot, arose from a desire to connect linguistically the "rain" word with the "rainbird."

Nahuatl *kiawitl* "rain" is found in Zapotec as *kie*, *kieba* "rain, heaven, stone," and in one dialect recorded by Pimentel we get the variant *kawa*. From the Nahuatl or Zapotec forms we get Huasteca *tiaeb*, Ayook *tsap* "heaven," Kiche *kag* "to throw stones, shoot," while similar words in the other Mayan languages mean "rain," indicating that we have in all the underlying "to throw violently." Thus we have Pokonchi *koh* "to throw," *kahok*, Pokoman *kohok* "thunder," Maya *kawak*, Cakchiquel *kaog*, Tzendal *kahog* "the nineteenth day," all of which, like Zapotec *kawa*, go back to a Nahuatl *kawi*, rather than *kiawi*. It may be that Nahuatl *kawa* "to abandon, drop" is really the same word with the basic idea "to throw away." In Kekchi we have, by the side of *kahok*, also *kaq*, *kah* "storm, thunder, lightning, angry, red," where "red" arises from "violent, boiling," and in Maya we have the same development from Nahuatl *kiawi* "rain," *kiawak* "outside," namely, *čaak* "rain, the Rain God," *čak* "red," *čakoh* "to boil," *čakauhal* "to get angry." In the Mayan languages this "rain" word was felt as of foreign origin and Pokonchi *kahog* was etymologized as "four feet" and was actually represented as a dog descending from the sky, while in Cakchiquel the word was transformed to *kab-r-aqan* "four its feet."

The strengthened Nahuatl (*tla*) *pakiawi* "to rain incessantly" found its way into Maya *pekčah* "to thunder or rain," *pekčak* "thunder," where the root *pek* became confused with the prolific "flat" words, which are of another American origin, that is, with Maya *pek* "anything flat," a word used for counting flat, round things, hence *pekčalak* "what moves like a turtle or a bird with wings to the ground," *peq* "any flat substance, dog," *peqenpeq* "lying on the ground like a dog"; hence we get the ideological connection of "rainstorm, thunderstorm" with "dog, turtle," which appears in Mayan and Zapotec monuments and documents. Indeed, Zapotec has borrowed the Mayan "dog, turtle" word, and so we find here *beko* "dog," *begočii* "turtle," and we also have Huasteca *piko* "dog." The Zapotec nineteenth-day name is

according to Seler *ape*, *appe*, *aape*, *gappe*.¹ This is most likely the Nahuatl (*tla*) *payarwi* "to storm incessantly," but since Juan de Cordoba² gives in the majority of cases *ape* after words ending in *l*, it may be that *ape* stands for *lape*, which would still more closely approach Nahuatl *tlapayarwi*.

¹ Seler, *Abhandlungen*, vol. I, p. 551.

² *Arte en lengua zapoteca*, Mexico, 1578, p. 202 ff.

III.

The Philological History of Nahuatl *olin*.

IN Nahuatl the root *kol* means "circle," as in *koloa*, *kulua* "to turn in a circle, twist, roll." Although we have Maya *kol* "bent," Kekchi *k'ol* "to roll up, bend," Kiche *qol* "to heap up," this particular form of the root seems to be a borrowing from the Nahuatl, which, in its turn, seems to be borrowed from the Mandingo, at least in some of its connotations. We also have Nahuatl *kolli*, *kulli*, "grandfather," which can be explained only from Malinke *koro* "old man," which resembles in form *koro* "to turn in a spiral," *kulu* "anything hollow, to roll," *kuru* "turned around." The latter are from the universal stem, found also in Hamitic and other African languages, while "old man" is of a totally different origin, even as we have only in the latter sense the alternate form *koto*.

There is in Africa a Berber root *mr'r*, *mqr* "great, old,"¹ which has all the appearance of a native word, but is in reality a corrupted Arabic term. Arabic *qadīm* "old" leads to *muqaddam* "commandant, captain, marshal, majordomo," which in Northern Africa was the name for an important village office, approximately that of the elder. We find it in the Arabic oasis of Soa as *gadīm* "old," hence Peul (Adamawa) *kiddum* "old," Wolof *magad*, *magate* "old," *mage* "old, great," *maguya* "greatness," which in the Berber oasis of Siwah appears as *tagademte* "old" and is like Arabic *taqdīm* "marquisate, great dignity." In Hassania-Arabic we find *kherim* "old," which in Hausa becomes *girma* "greatness, glory." In Berber we have derivatives chiefly of Arabic *muqaddam*, such as Shawiah *amr'ar*, pl. *imr'aren* "chief," Kabyl *amek'ran* "great," *thamr'er* "old age," etc. But in the Mande languages we have the unsuffixed Arabic root in Malinke *koroma*, *kotoma*, *koro*, *koto* "old," Vai *koro-mandža* "the king for a whole country, as opposed to the chiefs or *mandža* over one or more towns," *sikoroma* "to enthrone, install a king." Thus it appears that Nahuatl *kolli* "ancestor" is due to an adaptation of the universal *kol* root to the Mandingo-Arabic "old" word.

The Mayance apparently native correspondent to this root is *hol*, which is reduced to *hoy*, *ho*, *hoh* and occasionally suffixed with *-b*, *-m*:

Maya *hol* "door, hole, opening of a sack," *holan* "open, full of holes," *holči* "to open the mouth for eating, mouth," *holni* "nostril," *hool* "head, chief thing, height," *hohool* "full of holes."

¹ R. Basset, *Loqmān berbère*, Paris, 1890, p. 316.

hoyah "to take out a tooth or eye, to take out from a small cavity, to scoop out wood."

hoh "to reap cotton by taking it out of the open pod," *hohah* "to reap cotton, weed."

hoqol, *hoq* "to burst (of the seed), come out, germinate, be manifested," *hoqzah* "to put out, extract."

hočkab "empty, hollow, spacious," *hoč* "to shock corn," *hočbiqevel* "skin flayed from the flesh, parchment," *hočdzib* "to make a copy of writing or painting," *hočah* "to paint, imitate, copy a writing," *hoč* "to bore a hole in a stone."

hobon "beehive, hollow in a tree," *hobnel* "stomach, entrails," *hobah* "to empty the stomach, open a wound, stir up dregs," *hobon* "color, paint."

hom "hole formed by the caving in of a hollow thing, trumpet," *homah* "to collapse (of hollow things)," *homhom* "cavern."

Pokonchi *hul* "cavern," *holom* (Pokoman) "head."

hohpam "hollow," *hohmil* "gourd bowl," *hohol* "side of the body, ribs."

hok "to make the hands hollow."

hopil "hole."

Kekchi *holom* "head, hair of the head," *hul* "hole, grave, abyss," *hultik* "to remember."

hob "hollow," *hobol* "roll, twig, bundle," *hopoq* "to bore."

hom, *hoom* "bowl, calabash."

Kiche *hol* "to denude, empty," *hul* "cavity, to shine."

hoyan "ventricle," *hoye* "to have pity."

hoh "cavity of the stomach."

huč "to paint with ink, write, prophecy, sign."

hob "empty, to have an empty stomach," *hobe* "to grow thin," *hobo* "to digest."

Uspanteca *hore* "cavern," *hul* "hole, cavern."

Ixil *hul* "cavern, hole, ravine."

Huasteca *hol* "hole, cave, grave," *holčal* "valley," *holi* "to bury."

In Zoque-Ayook where *-l* becomes *-t*, we have Ayook *hot* "heart, hole, stomach, within, in, to become cavernous," *hothuih* "to repent," *hotök* "abdomen, belly," *hotuih* "to awaken," *hoot* "orifice," *ahot* "hope," *hoitik* "to live," *hoitp* (dial.) "in, between, belly," *hout* "to take out of a hole, sink," *hut* (dial.) "hole," *huut* "to take out what is buried, extract teeth," *huitn* (dial.) "awl," *houhtik* "to be alive," *huik* (dial.) "alive, live." In Zoque, where we have *hoy*, *homa* "in," we have curiously *tsokoy* "joyous," *tsokoyvin* "stomach," *tsokoymen* "heartdrop," where *tsokoy* has the basic

idea of "hole." Here the lengthened form makes it certain that we have a borrowing from Nahuatl *tlakoyoktli* "hole," *tlakoyan* "space, interval," *tlakoyonilli* "full of holes," *tlakoyawa* "a broad and narrow space," from *koyoktik* "hole," *koyoni* "to open up, pierce," where *koy* is a reduced form, as in the corresponding Mayan words, from *kol*. It is not likely that merely in Zoque do we have borrowed words; it is more likely that the Ayook words are equally borrowed. This is made the more certain by Huasteca *tahuy* "to bore a hole," which is unquestionably from Nahuatl *tlakoyonia* "to drill a hole." We have also Huasteca *čukul* "belly," which similarly points to a Nahuatl origin and seems to be identical with Zoque *tsokoy*. But if the Zoque-Ayook and Huasteca "hole" words are of Nahuatl origin, it would seem that the other Mayan words are, at least in part, due to Nahuatl influence, and if this is the case the *hol* words stand comparatively alone in Nahuatl, since they cannot be traced to the north, and are in all probability similar adaptations from the Mandingo where, in addition to the "hole" meanings of the *kuru*, *kulu* words, we get "belly" words of a different origin, but contaminated by the same *kuru*, *kulu*.

Either for religious or medical reasons, the Arabic *karš*, pl. *kuruš* "belly, stomach" has spread over an enormous territory in Northern Africa. In the Berber languages we have Tashelhit *tak'eržotʔ*, Kabyl *akeršin* "stomach," but also *akūr* "belly of ruminants,"¹ which would bring us to the root *kūr*, originally "round," which in Egypt means "big bellows." From the confusion of these two terms we get Malinke *kono*, Soso *furi* "belly," which shows that the original form was *koro*, as, indeed, we have, outside of the Mande languages, Baga, Timne *kor*, pl. *tsor*, Dewoi *kuri*, Basa, Krebo *kuli*, Bornu *tsuro*, Kisi *pure*, Yula *pura*, Mosi *pūra* "belly." In Malinke and Bambara, *kono* has all the meanings of Nahuatl *kol*-, *koy*-, Mayan *hol*, *hoy*. It means "inside, spirit, heart, belly, largeness, thickness." The last sense appears in Nahuatl *koyawa*, which means "to flay" and "to make large," but does not seem to be recorded in Mayance. The meaning "to flay" of Nahuatl *koyawa* leads us to a very important historical fact, for the corresponding Maya *hočbiqewel* "parchment," *hoč* "to shock corn," by the side of *hočah* "to paint, copy a writing," points to the use of parchment for writing, which apparently preceded the use of paper.

There would seem to be nothing peculiar in the *ol*, *yol* words in Nahuatl and Mayance, which have the same basic idea, "hole, inside," and which may well be reductions of *hol*, but a number of specific meanings of these words are identical with those of the same root in Mandingo, and so it becomes

¹ E. Destaing, *Étude sur la Tachelhīt du Souš*, Paris, 1920.

necessary to show how the Mandingo words, originally of Arabic origin, but of an entirely different root than the one so far discussed, have come to have these new connotations. In the Berber languages we have a widespread *ul, ur, ud* root meaning "inside, heart, belly," as in Rif *ur*, Kabyl *ul*, Zenaga *ud* "heart, will, inside." That this is not originally a Berber word is proven by Somali *ūr* "belly, womb, heart, foetus," which is from Arabic *ʿaūrah* "the region from the navel to the pudendum, the pudendum, belly." This *ʿaūrah* is naturally confused with the *kūr* previously mentioned, and it is not always possible to draw the line between the two. We have Bambara *wolo* "to bear, engender," and "skin," *wōrō* "to skin, thigh," *ulu* "pudendum," Malinke *wulu* "to bear, engender," that is, "that which comes from the inside." It may be mere accident that we get *worawora* "to fall in torrents," as in Bambara *kaba worawora* "the rain is falling in torrents," even as *ulu* "dog" is unquestionably of a different origin, but as both these terms will be found in America connected with this root, it must be assumed that even the Mandingos considered the words to be cognate. It is, however, far more likely that in Bambara *worawora* we have the same "inside" word, for we have also Malinke, Bambara *uli* "to boil, come suddenly, rouse, get up," which has distinctly the "inside" connotations.

If we now turn to America we find in the Mayan languages:

Maya *ol* "entrails, heart, spirit, will, desire," *ol, oli* "almost, on the point of," *olak* "tender leaves," *oltah* "to wish, love," *ul* "to arrive."

yol "wish, spirit, pods or most tender part of the plant."

Kekchi *ul* "ravine, hole," *ulel* "opening," *ulul* "marrow," *ulelq* "to bubble up, come out."

yol "to be born, come out of an egg," *yolaq* "to live," *yolyol* "slippery,"

yoam, yoan "life, womb," *yoyo* "alive."

Pokonchi *yolik wač* "shining."

Uspanteca *ulul* "brain."

yol "alive, awake."

Ixil *ul* "belly, entrails, inside, come back."

yol, yul "word, to speak."

We also have the curiously increased Pokonchi *č'ol* "to take off the skin," *č'olem* "to speak," Kekchi *č'ol* "heart, mind, innermost," *č'olob* "to promise, put oneself under obligation, answer," Uspanteca *č'ol* "chest, belly, inside," which increase the suspicion that we are dealing with words borrowed from the Nahuatl. In Nahuatl, as in Mayance, we have the root *yol* in *yoli, yuli* "to live," *yollo* "able, sharp of intellect," *yollotli, toyollo* "heart," *tlayolli, tlayulli* "husked maize," *toyolia, teyolia* "soul," *iyolik* "softly, little by

little," *iyollo* "marrow," *moyollali* "consoled, satisfied," *neyolewaloni* "motive, excitement." The shorter form *ol* is one found less commonly and is frequently reduced to *l*. We have, for *tlayolli*, also *tlaolli* "husked maize" where *ol* has the meaning "that which comes out of an enclosure," and the unprefixed *ollotl* "center, middle," *olotl* "husked maize." More often *ol* has the meaning "to surround, close in," as in *ololoa* "to dress, cover, roll, empty, form a heap," *oloni* "to run like water," *olinia* "to boil, tremble, move," hence *olin* "motion" where it coincides in connotation with Malinke, Bambara *uli* "to boil, arise, get away." Nahuatl *ol*, as has been mentioned, shortens into *l* after the prefixes *mo*, *to*, *ne*, *tla*, and we get *neloa* "to stir, beat a thing," *moloa* "to make into a paste," *molli* "sauce, pottage," *moloni* "to run, spread (like clouds, water, perfume)" *tlaloo* "to run."

The Nahuatl root *ol* in *oloni* "to run like water" leads to a root *lo* which appears in some Mayan languages as *lu*. We have Maya *lok* "to boil," *luq* "mud, to swallow," *luu* "grime," *luum* "earth," *luumil* "earth, dregs," Huasteca *luku* "mud," but in Kiche and Kekchi the fuller *uleu* "earth." It thus appears that the Mayans thought of "earth," as in the Tableau of the Bacabs, as "watered by rain." From this it follows that in Nahuatl *tlalli* "earth" we have the same "water" word, and that *tlalatl* "mud" need not be composed of *tlalli* and *atl*, but is directly related to *tlalli*. Indeed, *Tlalok* "the Rain God" contains precisely the form *lok* which we get in Mayan *luq* "mud." As no Nahuatl word can begin with *l*, the fact that we have here an abbreviated *ol* root has become obliterated by the prefix *tla*, while in *moloni*, *moloa*, *neloa* the relation of *Tlalok* to a "water" root is made perfectly clear.

In the case of Nahuatl *atl moloyan* or *moloni* "fountain," it is not possible to tell precisely whether *ol* or *mol* is the root in the mind of the speaker, but that is immaterial since *mol* is derived from *ol*. It is this Nahuatl longer root that has found its way over a larger territory. We have Huasteca *mul* "pitcher," *mulku* "to heap," Maya *mol* "to heap," *mul* "heap, all together," Pokonchi *mol* "to collect," *molb* "bud," Kekchi *mule* "to swarm," *mul* "dunghill," and Maya *mulmulankil* "to swarm like ants, boil or bubble like water" shows that "to heap" is produced from "to boil." Here the Zoque-Ayook are exceedingly interesting. As usual, the wanting *l* is changed to *t*, and we get Ayook *mot*, *mut* "to boil, well," *moots* "mud," *mutam* "to mix liquids," Zoque *muta* "spring," which aid in the proof that in Tzendal *molo*, Maya *muluk*, the "ninth-day" word, we have the meaning "rain," which also appears in Nahuatl in Guatemala, where instead of *atl* the ninth day is called *kiawitl* "rain."

IV.

The Evolution of the Glyph *atl*.

IN the plates to Sahagun's *Historia de las cosas de España*¹ the glyph *atl* is represented by a vessel full of water, into which a drop at the end of a cloud digit is falling (Fig. 1a). Rain is here frequently represented by round drops, sometimes with a concentric inner circle, falling from a series of cloud digits (Fig. 1b), and once we have here a conventionalized sky consisting of a digitate surface, from which dotted circular drops are falling (Fig. 1c), and the latter is still more clearly shown in Codex Vaticanus 3738 (Fig. 1e) where the starred sky has a series of digitate cloud formations ending in circular drops. In Codex Nuttall (Fig. 2) we have the sky adorned with sun, moon, *tonalamatl* formation, and wide opening, set in a blue water field, and from three depending water fields descend three black human forms. Here the three depending fields are studded with small circular drops, half of each painted red. Far more graphical is the representation of rain on the monuments, as at Copan, where rain comes down in drops with elongated formation at the edges (Fig. 3a), and a schematic sky may be represented above it (Fig. 3b), or the whole may assume the semblance of a human face (Fig. 3c). In a more monumental formation the drops form large clusters and the sky may have the cross-hatch formation of the sign *tun* (Fig. 3d), which is often connected with the Rain God and the sky.

Before we proceed any further in the evolution of the "rain," it becomes necessary to get an exact idea of the native conception of the sky as the source of rain, wind, and fire, all of which become inextricably connected. In my *Africa and the Discovery of America*² I have pointed out the presence of Arabic *Illah*, *Allah* "God," in Nahuatl *ilwikatl* "sky, heaven," but I must here repeat it in substance, in connection with the new material. To the Mandingos *Allah* and *sa* mean "serpent, sky, rain" and "God, the Old God," that is, "the Great God," the God of the Arabs. We have already found *sa* in Zapotec for "rain" and traces of this word in Nahuatl and the Mayan languages, and in Nahuatl *ilwikatl* I assumed *il* to stand for "God," so that here we have *il-wikatl* "the government, residence of God," where the second part *wikatl* is derived from the Nahuatl *wika* "to govern, direct." Now, we have the direct proof that this *ilwikatl* is a neo-formation, since in the Uto-Aztecan and other languages "sky" is represented by *tewika*, and

¹ Lithographic Plates to *Historia de las cosas de España*. ² Vol. III, p. 305 ff.

not by *ilwika*, and this seems to be from Nahuatl or pre-Nahuatl *tewik* "as far as," hence, no doubt, "far away, upon high." Thus we have, in an approximate order of linguistic deterioration, Opata *tewikak*, *tewikatsi*, Eudeve *tewika*, Cahita *tewika*, *teka*, Pima *tšuwika*, *titawaka*, Tepehuan *tubagwe*, Tarahumar *tewegači*, *rewegači*, Joba *vonteweka*, Cora *tahapoa* (in the—), Tuba *tegmueka*, Papago *tamači*, Cuchan *asmnai*, Mohave *amaiya*, Keres *huwuka*, Tesuque *inakowah*, Caigua *kiakoh*, Ute *tonwot*, Shoshone *togumbona*, Chamahuevi *dug'umbaiah*, Shikaviqan *dog'umbanabi*, Tubatulobal *dogumbal*, Hopi *dugbela*, Don Juan Capistrano *dupitš*, Serrano *tukubitš*, Cahuila *dukwaš*, Agua Caliente *tukwaš*, Luiseño *dupaš*, Gitanemuk *dugušbowi*, Möhineyam *dugubat*, Gabrielino *tukupan*.

To the native American mind "sky" was the place from which came "rain, wind, fire," and these were in the Mexican conception of *tonatiuh* scarcely separated. The Mexicans believed¹ that the prehistoric sun had passed through five stages, that of *Atonatiuh* "Water Sun," *Oselotonatiuh* "Jaguar Sun," *Ekatonatiuh* "Wind Sun," *Kiauhtonatiuh* "Rain Sun," *Olintonatiuh* "Motion Sun," while other traditions also gave *Tletonatiuh* "Fire Sun," but *atl*, *oselotl*, *kiawitl*, *ekatl*, *olin* are all directly connected with "rain," so that we get here a positive reference to the merging of the sun into the "rainy sky." The sky is consequently often conventionalized into an imbricated sun pattern or a pattern of cloud or flame formations. In Codex Vaticanus No. 3773 the six Rain Gods are represented in six pictures under a sky of cloud or fire formation. In one of these (Fig. 4a) there is the sun from which descends water bearing an arrow, shield, stone, cross bones, and death, that is, destruction. In the same Codex we have the *tonalamatl* quarter twice with a semblance of the imbricated sun design (Fig. 4b). Precisely the same may be found in Codex Borgia (Fig. 5). The Indian, like the Egyptian, reveled more in the destructive powers of the sun than in its beneficence, hence we generally get in the Maya representation of the sky not only the sun, but also cross bones, commotion, and night (Figs. 6a, b). *Tonatiuh*, the Sun, is in the Codex Borgia and Vaticanus No. 3773 represented with fire water descending from it (Figs. 7a-c). For these reasons it must be understood that rain includes "fire from heaven, the sun," wherefore, for example, in Codex Vaticanus 3738 (Fig. 1e) the water digits are painted red.

In the representation of his ideas the Indian did not proceed above the direct pictorial. Brinton calls it "iconomatic," by which he means a representation of words or sentences in the form of a rebus. But this is only partially correct, for as a general thing the origin of the glyphs is due to an

¹ Seler, *Codex Borgia*, vol. I, p. 204 f.

attempt to visualize metaphors, no matter what their origin may be. If we say in English, "it rains pitchforks, and cats and dogs," and, whatever the origin of these metaphors may be, represent in a picture or upon stone a series of pitchforks, or cats and dogs, descending from the sky, we have a precise rendering of a Mexican pictorial representation, and the conventionalization of such a picture becomes a glyph. The "iconomatic" method of which Brinton speaks is a later device intended to represent new words by old glyphs, and is the beginning of that hieroglyphic writing which may ultimately become phonetic. By far the greater mass of Mexican and Mayan documents and inscriptions belongs to the method of metaphor visualization, and it is with this that we are chiefly concerned in our study of the glyphs, if we wish to ascertain their genetic history. In this metaphorical visualization puns play an important part, especially if borrowed words lie at the foundation of a new concept. Thus the circular drop at the end of the digit formation led to a new representation of *atl*.

We have Maya *č'ah*, *č'eh*, *t'ah* "drop," *č'eh* "to throw down, destroy." Uspanteca, Kekchi *č'ah* "to wash" is probably related to these, when we consider Nahuatl *čakwani* "to get very wet," from which the Mayan words are derived. We also have Nahuatl *čapani* "to get very wet, fall on the ground," *čačapani* "to rain with large drops," *čipini* "to fall in drops," *čičipini* "to fall in small drops," hence Pokonchi, Kekchi, Uspanteca *č'ip* "small," Kekchi *č'ipul* "the smallest," Nahuatl *čipuli* "small shell." We are in Nahuatl brought to connect "drop" with "small shell," and this has led to the transformation of the drop at the end of the water digit to a shell. In a Tula relief at the Malinche Hill we have a background of water, with appendages of shells viewed from below, from above, from a side, and also the conventionalized square-formed spiral for it (Fig. 8).

That "water" is not the precise meaning of the *atl* glyph follows from the fact that water is usually represented by parallel straight or wavy lines, some of which are generally heavier, as in *hueyapan* "ocean," or in *Atempa*, *Atlatlauhkan*, *Čilakačapan*, *Kečulak*, *Tsayanalkilpan* (Figs. 9a-e), in which "water" is represented by parallel lines within a vessel. More frequently, however, the water in the vessel is topped by the glyph, as, for example, in geographical names (Figs. 10a-e). The writer of the hieroglyphs was aware of the linguistic speculations which made for the syncretism of mythological forms and let his fancy roam within the limits of such knowledge. To him the *atl* glyph was a representation of the rain from the clouds, which could be confused with the rainbird or with the dog descending from the clouds, or with the representation of the rain within the center of the

Tableau of the Bacabs or the *tonalamatl* dripping into a vessel, or with the "shell" which was homonymous with "water," hence his glyph varied *ad libitum* within the same monument or document, even when two such words followed each other. We shall study this arbitrary representation, first in Mexican, Zapotec and related picture writings, and later in the much reduced Mayan hieroglyphics.

In Codex Fejérváry-Mayer "water," when not a glyph of the ninth day, is represented by a blue expanse with a slight rippling edge or surface (Figs. 11a, b), and within the water may be marine animals, such as the swordfish and shells (Fig. 11c). In the case of water pouring down, the knowledge of the *atl* glyph intrudes, and the water assumes a digitate form (Fig. 11c), which may be further made significant by the presence of a bivalve and shell (Fig. 11d). Occasionally the glyph *atl* is similarly represented by a level rippling in a vessel (Figs. 12a, b), but since the general tendency is to connect this vessel with a bird, the vessel is tilted, some of the ripples or all of them are lengthened out into feathers, the stand of the vessel, if present, is turned into a semblance of feet, and one handle is similarly transformed into a raised foot (Figs. 12 c-g). In many cases the tail formation assumes the aspect of a hand, when the vessel may be changed into a sleeve (Figs. 12h-l). Frequently the glyph has a red semilunar or rectangular spot in the middle, which, as we shall later see, is a reminiscence of the shell sometimes placed in the water (Figs. 12m-r).

Codex Nuttall differs but little from the preceding, but it is interesting to observe how often the shell is found associated with water, although fishes, snakes, crabs, and crocodiles (Figs. 13a-d, 14) are similarly given. Water, when not a glyph, is represented by a blue field with lines alternating heavy and light (Figs. 15a, c, d, g, h), but we also have the glyph inserted in the water, and it will be observed that here the ruffled surface is represented by shells (Figs. 15b, c, e), while one or two or more shells, some of them double, are generally placed within the water (Figs. 15e-h). The *atl* glyph does not noticeably differ from the previous, except that we have a number of cases where the vase with its base and handles is not tipped into bird form, and several of them, whether tipped or not, contain the shell in the center (Figs. 16a-o). Codex Borgia does not materially differ from Codex Nuttall in the presentation of *atl*, but the shell inside of the glyph, sometimes changed to an eye, is more frequent (Figs. 17a-g). In the *Tonalamatl* of the Aubin Collection water is represented by the usual stream with snail-shell appendages, while in the water itself these give way to mere black whirls (Figs. 18a, b). As a glyph it is never tilted nor turned into the semblance of a bird, but is

always given in the form of a vessel with three or more water digits, and is often placed on its side (Figs. 18c-g). Codex Telleriano-Remensis and Codex Borbonicus differ little from the *Tonalamatl* (Figs. 19a-g). Of the other Codices the most interesting is Codex Bologna, where we frequently find a curious extension above the water in the vessel of the form of fire , and the vessel itself resting on a fillet, such as is found on the head of *Tlalok* and in the glyph for the nineteenth day, that is, in connection with rain (Figs. 19h-m).

We have already seen that everything connected with the sky is equally connected with rain. One of the most curious transformations of *atl* is that which connects it with the moon, which is represented by a vessel filled with water, and frequently containing a hare. The connection of the hare with the moon is due to the fact that in popular Arabic conception the female hare menstruated: "I asked the Prophet, 'What do you say regarding the hare?' and he replied, 'I neither eat it nor prohibit its being eaten'; I then asked him, 'Why, O Prophet?' and he replied, 'Because I hold that it menstruates.' " "Al-Jāhīd states that the Arabs in the Time of Ignorance used to say, 'He who wears the heel of a hare hanging on his person is never affected with the evil eye or magic, which is so because the jinn or genii flee from it on account of the place of its menstruation.' " ¹ A mantle with a white moon-vessel embroidered on it is in Codex Magliabecchiano (Fig. 20a), called "manta de conejo, hare mantle." In Codex Nuttall (Fig. 2) the moon is represented by a similar white vessel filled with water and containing a shell, so that there can be no doubt that the moon was also connected with "water," for which, outside of the general sky relation, we have the specific periodic changes in the tide, the periodic increase in the flow of milk in the animals and their conception of the embryo, which, according to Qazwīnī,² are definitely referred to the moon. In Codex Vaticanus No. 3773 (Fig. 20b) we have the hare in a field of water within the water-vessel, and the protruding water digits have the usual *atl* shells on, so that the identification is complete.

In a number of "moon" representations in Codex Borgia (Fig. 21a, b) there is an obsidian knife inside the vessel, instead of a hare. Now, the obsidian knife is connected with the Moon God, *Teksistekatl*, in Codex Vaticanus No. 3773 (Fig. 22), and in Codex Borgia (Fig. 23), where the

¹ A. S. G. Jayakar, *Ad-Damīrī's Ḥayāt al-ḥayawān*, London, Bombay, 1906, vol. I, p. 43 f.

² H. Ethé, *Zakariya Ben Muhammed Ben Mahmūd El-Kazwīnī's Kosmographie*, Leipzig, 1868, vol. I, p. 39 ff.

twelve months are represented by a hare, while in another place (Fig. 24) *Teksistekatl*, as a goddess, wears the sign *teksistli* "marine shell" on the brow, as in Codex Fejérváry-Mayer (Fig. 78) and Codex Vaticanus No. 3773, pp. 30 and 88 (Fig. 25), and she is similarly connected with the shell in Codex Borbonicus (Fig. 143), and the *Tonalamatl* of the Aubin Collection (Fig. 144). I shall later discuss the Moon God as such, and here I shall only refer to his derivation from *teksistli*, which itself is composed of *tek* in Nahuatl *tekipatl*, Maya *tok* "stone, flint," and Nahuatl *sistli* "mother"; hence the name of the marine shell refers originally to the "mother of pearl," which, as I have shown,¹ is universally known as the oyster which conceives the pearl by being drenched by the early rain or dew, and so, as in Qazwīnī, must be referred to the moon. Here we are interested only in the fact that this gives an additional proof that the moon is represented by a water-vessel of that peculiar round form which is found in the nose-adornment of women and is called *yakametsli* "nose-moon." As such it is the conventionalized moon in Codex Nuttall (Fig. 26).

We have still another representation of "water" in the sky in Codex Nuttall pp. 18, 19, 21 (Figs. 2 and 27). This is a frequently repeated design, which also occurs in a Vienna MS., and in the wall decorations of Mitla, and which Seler identifies as a star eye² (Figs. 28a, b). As a special device it is found in Codex Nuttall (Fig. 29). It will be observed that the central part is a moon water-vessel and that between the red rays we have cross-hatched formations such as would, if completed on the other side, make out a semblance of the Tableau of the Bacabs. We have this design again (Fig. 27) where the moon is absent and so this must in some way represent it. In another place (Fig. 30) even the sun is absent, while on page 16 of Codex Nuttall this sign is placed by the side of "fire" (Fig. 31). One of the most interesting representations of the sky is found in Codex Fejérváry-Mayer (Fig. 32), where above the enthroned *Tlalok* we have a blue sky with star borderings, an indication of the imbricated sun symbol above it and a water jar with a blue circle in the middle, that is, *olin*, or what later becomes *olin*. It is possible that it is intended here for the moon, although the white concentric circles with a smaller one on top may signify "moon." That the representation of the Tableau of the Bacabs chiefly refers to the moon is proved by the fact that the night sky, when not represented by the obsidian stone as a moon, contains the Tableau, or the two may alternate, as in Codex Borgia

¹ See my *Contributions toward a History of Arabico-Gothic Culture*, Philadelphia, 1921, vol. IV, pp. 108-116.

² *Abhandlungen*, vol. I, p. 663.

(Figs. 33a, b). In Codex Nuttall, p. 10, we have "Death" connected with this device and the night sky (Fig. 34), showing that we have here the Tableau with death at the center. The same device is also represented at Mitla.

V.

The Evolution of the God *Tlalok*.

THE Mande identification of "rain" with "snake" is universal in the Mexican documents. In Codex Borgia we find above *Ketsalkowatl* the representation of a snake cut by an arrow, which pictures the effect of the wind upon a rainstorm (Figs. 35, 36). In the first a red and grey snake-like formation is near the mouth of the snake, which is the usual conventionalized sky with rain and lightning, and this is further exemplified by shells or stars in the folds of the formation. Similarly, above *Tlalok*, we have a blue-tipped yellow snake swallowing a blue-tipped red snake, which has a similar meaning (Fig. 36a). In a series of five rain gods under skies with the usual conventionalized sky representing rain, fire, sun, or night, we naturally have the god with the snake face, but in one hand he, in addition, holds a snake (Fig. 5). A red and a blue snake descending from the sky and intertwining is similarly given in Codex Borgia, and one snake is occasionally cut by a *tekpatl*, an obsidian knife, to represent the cessation of rain (Figs. 37a, b). In Codex Vaticanus No. 3773 *Tlalok* is also represented with a snake in one hand (Fig. 38), and we likewise have the descent of the snake from heaven into a bowl (Figs. 39a, b). The red and blue snakes intertwining produce the term *atl-tlačinolli* "water-burning," which refers to the disastrous effects of a rainstorm with lightning, and so becomes the metaphor for "war."

Here two metaphors meet, for while *Tlalok* is frequently represented with a snake in his hands, he just as frequently holds the death-dealing bundle of arrows, so that the confusion of "rain, lightning" and "war" is natural. In the Aubin Collection, attached to Duran's *Historia de las Indias de Nueva España* (Fig. 40), we have a gorgeous painting of *Tlalok*, with thigh bands bearing the glyph of the sun, a snake-like lightning ray in one hand, and a shield in the other, from which it appears that he was conceived as a warrior; hence it is not surprising to find him frequently with arrows in his hand. The Mexican glyph for such a bundle is *akatl*, which refers to the thirteenth day, and for which we have generally a bundle of two or three reed arrows, though one arrow and the reed plant itself also occur (Figs. 41a-p). The corresponding Mayan glyphs (Figs. 42 1-5) have the values *been* in Tzental, *been* in Maya, *ah* in Cakchiquel. The latter is unquestionably identical with Nahuatl *akatl*, while the other two cannot be explained from any Mayan language. The glyph is schematically , and, if we

remove the cartouche, we get $\frac{\text{H}}{\text{H}}$, a bundle of arrows, so that we are brought back to the Nahuatl glyph. The words *been*, *ben* are taken from the Malinke, where we shall trace it back to the Arabic. Arabic *bundug* "cross-bow, gun" is found in Soa as *bundega*, in Wadai as *bindeg*, whence it has spread over an enormous territory. We have Kandin (Berber) *bindega*, Hausa *bindega*, *bindiga*, Peul *bindigari*, *finkari*, Basa *budenga*, Kamuku *bundera*, Kanuri *bendege*, *bendere*, Nupe *bidiga*, and in the Mande languages, Malinke *funkari*, Toronka *fungei*, Dyalunka *finkali*, Soso *fenkare*, Gbandi *gbandei*, Mende *gbande*, Gbese *gbara*, Toma *gbade* "gun," but Malinke, Bambara *biñe*, Kono *beñe* "arrow." As these words also mean "horn, trumpet" it is clear that the reference is to the reed as a blow gun or as an arrow.

The chief characteristic of *Tlalok* is the glyph *atl*, consisting of a tilted water-vessel with the shell in the water turned into an eye, and the stand into serpent teeth, and so arranged that the eye coincides with the eye of the god, while the serpent teeth form his upper teeth, and the lower jaw is missing. That we have here the glyph *atl* is shown by the blue color of the water or the whole vessel as well. In Codex Fejérváry-Mayer (Fig. 43) we have an interesting representation of *Tlalok*. He is standing on a crocodile in the water, that is, on earth, from which a tree is growing. This the god holds with one hand, while in the other he holds apparently a throwing-stick. The *atl* glyph is broken into two parts, since a blue circle is drawn about the eye, while the water-vessel is represented as though the teeth were the digitate water, but the absence of blue in the teeth shows that this is merely distantly indicated. Above the god we have the representation of *atl* as a bird with a shell or eye in the blue body and the stand so drawn as to represent teeth. He is again thus represented on page 26 (Fig. 44), where we have the naked god, and his whole body is painted blue to represent "rain water." In the representation of page 34 (Fig. 45), where he has his hand on a personified maize plant, he has on a blue garment, which in another place is striped (Fig. 46). In all but the first, *Tlalok* is represented with a beard, while in several of these pictures he also wears the nose-stick. He is represented (Fig. 104) also with one tooth turned into the form of a fang, such as is characteristic of him in his Maya counterpart *Čak* (Fig. 47). In the representations of the glyph *kiawitl* (Figs. 48a-d) we have clearly a reduction of the *Tlalok* head, since the presence of the fillet or the nose indicates the previous existence of a "rain head."

In Codex Nuttall the full face of *Tlalok* (Fig. 49) is formed by two blue eye circles, while the vessel is turned with its sides down over the teeth stand,

to represent the upper jaw. In another place (Fig. 50) the same design has the characteristic Mayan fangs. Otherwise we have a considerable number of representations of the god where the eye, as in Codex Fejérváry-Mayer, is detached from the lip part. The glyph *kiawitl* is here the usual form, but frequently we have curious expansions to represent the two detached parts of the *Tlalok* characteristics (Figs. 51a-f). In the *Tonalamatl* of the Aubin Collection and the Codex Telleriano-Remensis there is practically no difference between *Tlalok* and *kiawitl*, which is an abbreviated Rain God (Figs. 52a-c, 53a-d). The other codices do not add anything new to our material.

The full face *Tlalok* in Codex Nuttall has long been represented in stone and clay and arose unquestionably after the manuscript profile form of *Tlalok*, since the teeth and eye formation could have arisen only from the representation of the water-vessel. When the necessity arose to give the plastic full form of the god, the upper twist of the vessel, so common in all codices, had to be drawn over the two eyes instead of one, and this led to the twisted nose-formation so commonly found in figurines and statues of the Rain God. Take the relief of the Zanja de la Piedra labrada of the village of Castillo de Teayo (Fig. 54),¹ place it mentally to front the spectators, and we get the many figures found at that place. (Figs. 55a-e.)² It is interesting to observe that several of them have the imbricated sun symbol on the head, since *Tlalok* is essentially a sun or heavenly god. A similar illustration may be seen on an object found at Pueblo Viejo Quen Santo (Fig. 56a),³ which is still better brought out in a face on a clay vessel, where the upper lip with the teeth is placed below the real mouth, and where the nose-stick passes through a conventionalized nose (Fig. 56b),⁴ but here we are already on Mayan ground. Similar rain gods are represented on pottery at Tlaxcala (Figs. 57a, b),⁵ and elsewhere (Figs. 58a-d, 59a-e, 60).⁶ This leads us to the relation of the Rain God with the water jar.

So far I have tacitly assumed that Nahuatl *čakwani* "to get wet" and all the related words in Nahuatl and Maya were native in origin, also that Nahuatl *kiawitl* and the related group were essentially Nahuatl in composition, but it can be shown that we have here only attempts to form native words from some foreign, ill understood term. All the Maya words connected with the two, *čakwani* and *kiawitl*, run into each other, such as *čak* "rain" and *č'ah* "drop," and are found only sporadically. It is even possible that Nahuatl *toyawa*, *totoka*, and their Mayan derivatives are similar adapta-

¹ Seler, *Abhandlungen*, vol. III, p. 435. ² *Ibid.*, pp. 433, 434.

³ *Ibid.*, vol. II, p. 254.

⁴ *Ibid.*, p. 256.

⁵ *Ibid.*, p. 304.

⁶ *Ibid.*, pp. 314, 855; Gamio, vol. I, p. 278; Seler, *Codex Borgia*, vol. I, pp. 109, 110.

tions. The heavy rain, to which all these terms refer, is in the Arabic, hence in the Mandingo, mind closely related to Aquarius of the zodiac, who even in Egyptian astronomy was connected with the water jar (Fig. 61). As the zodiac is of Babylonian origin and was introduced into Egypt by the Greeks at a very late time, possibly in the Ptolemaic period,¹ we have in the water-jar Aquarius only a late source. The Arabs had two names for this sign, *ad-dalwu* "the bucket," and *sākib* "the pourer of water," both of which are translations from Greek ὑδροχόος and ὑδρία respectively. We have Arabic *sakaba* "he poured it forth," *sakb* "water poured out or forth, lightning extending towards the earth." In the African languages, where it is extremely difficult to trace astronomical terms, since they are seldom recorded in the dictionaries, we none the less find Hausa *tagwa*, *tugwa* "heavy rain," and curiously *tagwa* "the constellation of the camel which rises at the beginning of the dry season," and *tugwa* "to shake (milk in a calabash in order to make butter)," but Peul *d'uka* "rainy season." This Arabic *sakb* became in Nahuatl *čakw* or *čap* since *b* can be rendered only by *w* or *p*, and the combination *čakp* is not common in Nahuatl.

The representation of *Tlalok* on water jars and similar objects is, therefore, quite natural, since we have representations of *Tlalok* pouring water from a jar (Fig. 62), and the water jar also bearing a representation of *kiawitl* (Fig. 191). In Codex Magliabecchiano (Fig. 63) *Tlalok* holds in one hand the snake-lightning, in the other a pitcher with a handle, from which at both ends protrude the glyphs of *atl*. This pitcher has a circle in the middle and clearly represents the sign *olin*. We have already seen that in Maya we have *mul* "pitcher," from a root *ul*, *ol*, and *ol* means universally "to shake." Now we say in Bambara *sa bi kulukulu* "rain (snake, thunder) is rolling,"² and the Bambaras also say *kaba worawora* "a downpour," where *kaba* "cloud" is the Arabic *ḥabā*, *ḥabān* "clouds," while *worawora* is identical with our root *ol* "to shake." This sentence for "downpour" produced both Maya *kaban* and Nahuatl *olin* "motion," the glyphs for the seventeenth day. The circle at the center of the pitcher undoubtedly is due to an adaptation to *ollī* "ball" used in the game of *tlačtlī*, when it had to be driven through a hole, and this was, as in the African ball game, used for the purpose of causing rain. The commonest form of *olin* is that of a pitcher (Fig. 64a-q) which may be changed to two streams of red and yellow, as in the *olin* representation of the sun (Fig. 27) or it may adapt itself to the bundle of reeds or the *atl-tlačīnolli* snakes, which represent the same violent rain-

¹ E. A. W. Budge, *The Gods of the Egyptians*, Chicago, 1904, vol. II, p. 315.

² See my *Africa*, vol. III, p. 309. ff.

storm and lightning, by splitting in the middle, attaching an arrow in the middle, or by turning into an intertwined form, so as to remind of the snakes of the *atl-tlač'inolli* (Figs. 64e, j-q). The Mayan representation of *kaban* (Figs. 66a-d) shows clearly that we have here the same elements as in the Mexican representation of *olin* as *atl-tlač'inolli*, for we have two streams, one black the other white, descending from the sky, and between them is the representation of the sun. In the glyph *kaban* in the codices we see similarly two streams, of which the white is barely indicated (Fig. 65a). In the inscriptional form (Fig. 65b) we have also a depending cloud, while some signs have a reticulation or circle surrounded by smaller circles, apparently a reduction of the sun symbol.

VI.

The God *Ketsalkowatl*.

TLALOK is often represented with a beard, a sign that he was an "old" god. For the same reason *Ketsalkowatl* is an "old" god, who is, generally, but not quite correctly, etymologized as "the feathered snake." The green *ketsal* feathers represent that which is most precious, since "blue" and "green" are the colors of distinction, as I have already pointed out in my study on beads;¹ hence *Ketsalkowatl* simply means "the green snake," a metaphorical expression for "the Precious, Great Sky God." I have already pointed out the curious parallelism in Nahuatl *koatl*, *kowatl* "snake, hoe," Maya *kan* "heaven, snake" with the corresponding Mande words. But we also have Aztec *koatl* "twin" and we know that *Ketsalkowatl* is usually related with *Šolotl*² and so it becomes necessary to explain that additional curious connotation of Aztec *koatl*.

We have already seen that the Hausa *tagwa* has transferred the Arabic *sakib* "Aquarius" to another constellation which is in some way related to the camel. But we also have *tagwaye*, *tugwaye* "twins," which at once suggests the idea that in the Western Sudan "rain" was in some way connected with Gemini instead of Aquarius, and had something to do with camels. One of the Arabic names for the constellation Gemini is *ġauza*, supposed to be derived from the root *ġāz* "to cross, traverse," but the same root also means "to give water, water a beast," hence *ġawwāz* "the water with which beasts are watered or with which seed-produce is watered." In Arabic astronomy Gemini is connected with the camel, for the stars γ and ξ of the breasts of the two (Castor and Pollux) are called *al-han'a* "the brand on the neck of the camel," while the two stars at the feet, η and μ , are called *elbaḥātī* "the Bactrian camels."³ The Hausa term *tagwa*, which combines the meanings "female camel, heavy downpour, Gemini" arose from a confusion of Arabic *sakb* with *tau'amain* "twins," for we have Peul *tawayeen*, *tawayebe* "twins," and this has produced in various Sudanic languages, especially in the Mande, words for "rain, to fall drop by drop," nor is there any wonder that Gemini should be connected with the most beneficial rain, for after its culmination come the drouths of summer. Qazwīnī speaks in elated terms of the spring which begins with the time when the sun enters into the con-

¹ See my *Africa*, vol. II, p. 237 ff.

² *Ibid.*, vol. III, p. 279 ff.

³ H. Ethé, *op. cit.*, p. 75 f.

stellation of the Ram and all nature revives, "and in this condition the earth and its inhabitants remain until the sun reaches the extreme end of Gemini. The spring ends and summer approaches."¹ In Peul *tawayebe* changes to *toba*, *tobi* "to rain," *toberinde* "rain," *tobere* "drop," *tobri* "to get wet." Apparently from this Peul "rain" word we get Wolof *taw*, Sarar *teb* "to rain," while Peul *tawayeen* leads to Soso *tune*, *tule* "to rain," Songay *tolli* "drop," by the side of *tomey* "twin." We also have Bambara *toni*, Khasonke, Malinke *tondi* "to fall drop by drop." Thus we get already in Africa the correlation of "bounteous rain" with "twin."

Ketsalkowatl is the Sky God who sends out the fructifying winds, even as Qazwīnī says² of the sun:

The sun has wonderful properties and exerts many influences upon the things of the superlunar and sublunar world. As regards the superlunar phenomena, it darkens all the stars by the brightness of its beams and furnishes light to the moon by its approach and recess. And all the usefulness mentioned of the moon is only part of the usefulness of the sun. On the other hand, in the realm of sublunar things we have its effect upon the sea, for, as soon as the sun stands in all its splendor above the water, its heat causes the vapors to rise, and when these reach the cool layer of air, they condense in consequence of the cold and conglomerate in the form of clouds. The winds carry these to regions distant from the sea, and now God causes drops to fall, by which the earth is rejuvenated after its death and from which rivers and springs begin to flow; and thus they become the means for a continued existence of the animals, the sprouting of plants, and the production of metals, as God Almighty has said: "Of his signs one is that he sendeth the winds, bearing welcome tidings of rain, that he may cause you to taste of his mercy; and that ships may sail at his command, that ye may seek to enrich yourselves of his abundance by commerce; and that ye may give thanks. . . . It is God who sendeth the winds and raiseth the clouds, and spreadeth the same in the heaven, as he pleaseth; and afterwards disperseth the same; and thou mayest see the rain issuing from the midst thereof; and when he poureth the same down on such of his servants as he pleaseth, behold, they are filled with joy; although before it was sent down unto them, before such relief, they were despairing. Consider therefore the traces of God's mercy; how he quickeneth the earth after its state of death: verily the same will raise the dead; for he is almighty."

I have given above the whole of the Quran, chap. XXX, 45, 47-49, instead of Qazwīnī's shorter extract, in order that it may be appreciated that Almighty God is more especially the sender of winds, without which the rain would be of no avail, since it would remain over the useless ocean instead of being carried inland where it is needed. *Ketsalkowatl* is then the Great God of the Arabs as he was transformed in the Western Sudan before reaching the New World. We can even show why *Ketsalkowatl* was connected with

¹ H. Ethé, *op. cit.*, p. 174 f.

² *Ibid.*, p. 54.

Gemini rather than with Aquarius. Qazwīnī says:¹ "The Brahmins further say that the highest apsis of the sun in every sign of the zodiac lasts 3000 years, that consequently the whole sphere would be run through in 36,000 years, and that in our time, that is, in the year 678 (about 1297 A.D.) it is in the sign of Gemini. They also assert that as soon as the highest apsis of the sun will turn to the southern constellations of the zodiacal sphere, the conditions upon earth and its external appearance would suffer a change, its inhabited part would become deserted, its deserts inhabited, the sea would dry up, the dry land would be turned into a sea, the south would become north and the north south. God knows best in how far this is true or false." We are thus brought in the Mexican conception of *Ketsalkowatl* in contact with the Hindu astronomy as taught by the Arabs after the ninth century, when it first was approached by the Arabs, and we thus get the furthest possible date for the existence of the Mexican culture.

We have so far found a reason for the identification of *Ketsalkowatl*, "the Precious Twin," with the wind, but there is in the composite nature of this great old god an element which connects him with the origin of the oyster pearl, an element which will make it possible for us to trace the Arabic Great God from Africa over the Canaries and the West Indies to Mexico and Yucatan. I have treated the evolution of the pearl myth in full,² and shall give here as much of the Hindu and Arabic side of it as is necessary for our purpose. In the *Atharva-Veda* there is a prayer in which the pearl and its shell are mentioned as an amulet bestowing long life and prosperity:

Born of the wind, the atmosphere, the lightning, and the light, may this pearl shell, born of gold, protect us from straits! With the shell which was born in the sea, at the head of the bright substances, we stay the Rakshas and conquer the Atrins (devouring demons). With the shell we conquer disease and poverty; with the shell, too, the Sadānvās. The shell is our universal remedy; the pearl shall protect us from straits! Born in the heavens, born in the sea, brought on from the river (Sindhu), this shell, born of gold, is our life-prolonging amulet. The amulet, born from the sea, a sun, born from Vritra (the cloud), shall on all sides protect us from the missiles of the gods and the Asuras! Thou art one of the golden substances, thou art born from Soma (the moon). Thou art sightly on the chariot, thou art brilliant on the quiver. The bones of the gods turned into pearl; that, animated, dwells in the waters. That do I fasten upon thee unto life, lustre, strength, longevity, unto a life lasting a hundred autumns. May the amulet of pearl protect thee!³

¹ H. Ethé, *op. cit.*, p.

² *Contributions toward a History of Arabico-Gothic Culture*, vol. IV, pp. 108-216.

³ M. Bloomfield, *Hymns of the Atharva-Veda*, Oxford, 1897, in *The Sacred Books of the East*, vol. XLII, p. 62.

In a Sanskrit drama, *Karpūra-Mañjarī*, written about 900 A.D., the jester gives a more detailed account of the life-history of a pearl oyster:

Methinks last night in my vision I fell asleep by the Ganges. Well, then the Ganges put her graceful little foot on the head of Īiva and washed me clean away with her water. Then by a cloud that was raining at the autumn season to my heart's content I was absorbed. And then, when the lordly sun had entered the asterism of Chitrā, the great cloud went near the place where the Tāmraparnī empties into the ocean. I, too, as I think, am within the cloud and go with it. Then the cloud started to rain there with great big drops of water; and the sea-oysters, such as they call pearl-oysters, emerged from the waters and absorbed me; and I was within them and became a monster pearl. Then in four-and-sixty pearl-oysters successively I was a drop of cloud-water, surpassing the opal in hue, and then, in due course, I attained once more to the condition of being a pearl, one of perfect roundness, clear, and flashing.¹

Probably the oldest Arabic account of the pearl preserved to us is found in an account of the ninth century:²

The formation of the pearl is the work of divine wisdom, whose name be praised. The pearl presents itself at first in the form of a grain of asafoetida, of which it has the color, form, size, lightness, fineness and frailty. It moves feebly on the surface of the water and falls upon the sides of the divers' barges. After a while it grows stronger and larger and assumes the solidity of stone. When it has acquired weight, it attaches itself to the bottom of the sea, and God only knows what it feeds on. At first one finds in the pearl nothing but a piece of red flesh which at its root resembles a tongue, and has neither back, nor nerves, nor veins. However, people do not agree as to the formation of the pearl. Some authors have said that the shell rises to the surface of the water when it rains, and opens its mouth in order to receive the rain drops, which are changed into grains. Other authors maintain that the pearl is engendered by the shell itself, which is the more likely opinion. Indeed, one sometimes finds the pearl in the shell in the form of a plant which adheres to the shell itself. It can be separated. And this the merchants who voyage on the ocean call *qala'*. God only knows how it is.

There is a term for "precious pearl," which is due to Christian influence. "Pearl" was early applied to the Virgin, as, for example, in the Coptic homily upon the Virgin or the Birth of Christ:

Mary is likened to Gideon's fleece, to a well-watered land whence the rod of Jesse springs. Joseph renounced all worldly possessions to obtain Mary. She is a pearl in the midst of other jewels, in a meadow girt about by the sea, the fish in which live all at peace. When the pearl's time is fulfilled, it joins that other pearl which lies below the

¹ *Harvard Oriental Series*, vol. IV, p. 264 f.

² J. T. Reinaud, *Relation des voyages faits par les Arabes et les Persans dans l'Inde et à la Chine dans le IXe siècle de l'ère chrétienne*, Paris, 1845, vol. I, p. 146 ff.

water in its shell *dzeḳ*, and together they mount up and illuminate the field and trees. The pearl in the meadow is now named *achates*.¹

As the Arabic and European connection of the pearl is due to Ephraem's Syriac theological attitude, I shall give here that part which bears on the subject:

The precious pearl, which is found in the sea, is very valuable, because it is hard to find. It does not furnish food, but glory, nor does it produce slaking of thirst, but renown. Much money is ponderous, but this lightens weight. Though it is small, it can do great things, and it is easy to carry, and is easily brought back to its original place. It is easily hidden, and hard to find. Even so is the Kingdom of Heaven. . . . The pearl is a stone born of flesh, for it comes from the oyster shell. Who, therefore, would not believe that God was born of the body of man? Not the coitus of the shells form it, but the conjunction of lightning and water. Even so Christ is conceived in the Virgin, beside lust, the Holy Ghost, beside its mass, producing the substance with God. Neither the pearl, nor the mussel is born, nor does it proceed as a spirit in the form. The pearl is born in the hypostasis, and does not produce another stone. Even so Christ is not mixed with the Divinity, nor a pure man, nor mixed with unmixed Divinity, but as though born in a spiritual form. Christ is no other than born of the Father and of Mary. This stone has not only form, but also substance, even so the Son of God is born in the hypostasis, and not in form. This precious stone partakes of two natures, that it may show Christ, who, since He is the Word of God, is born man of Mary: He did not have a partial nature, for He was no other being, but He has a perfect double nature, lest He love the two. . . . Consider the ministry of the imperfect flesh in the pearl, and you will readily believe that Christ was born of a woman. The mussel is not worth an obole, but it has produced a stone more costly than many talents of gold: even so Mary brought forth the Divinity with which nothing can be compared. The shell is not afflicted by any pain while it conceives the pearl, but has only the sense of the accession. And Mary conceived Christ in gladness, feeling the acceding nature. The mussel does not spoil while it conceives and bears, for it brings forth a perfect stone without pain. So does the Virgin conceive without corruption and bear without pain. The pearl is not only conceived, but also lasts while it grows, and even outside of the shell it can show its hypostasis. The precious stone is indivisible, and no one will separate the assumption of the Divinity. Lightning and water are combined, and two opposites are united. Why do you not know what it is that you hold, and why do you curiously examine what you do not hold? From fire—lightning and fire, whence it both illumines and inflames. The shells grow in water, through water. Why does not the coruscation consume the body of the shell? . . . The pearl is most showy, on account of its divinity, and white, on account of its assumption. In the whiteness you see its clarity, in its virtue you see its inherent power. It is hard, on account of its human nature; it is light, on account of celestial condition. It is watery, on account of its terrestrial nature; it is fiery on account of its divine hypostasis. For all things there is a physical considera-

¹ W. E. Crum, *Catalogue of the Coptic Manuscripts in the Collection of the John Rylands Library*, Manchester, London, 1909, p. 36.

tion, for everything reflects its nature, as in a mirror. But mirrors are made by art, hence they have a certain fallacy in the perception of a given thing. But the pearl has a natural grace and innate usefulness. There are many other things which become one out of two, but they are not born like the pearl, nor are they conceived of fire and water.¹

I have already shown that Taino *simi*, *simini* is derived from the Arabic "rain, heaven" words,² but that the Arabic *sama'*, and not the *ġinn*, words are responsible for it appears now clearly from the Guanche *Ašaman* "the Highest God," who is also called *Akoran* "the Old God," which I have elsewhere shown to be derived from the Arabic,³ and originally means "chief." This same Arabic "rain, heaven" word reached Mexico and Yucatan together with the precious pearl myth and has led to an enormous development of religious conceptions which can be traced in detail back to the Arabic source.

Among the Mayas the Great God *Itsamna*, *Samna*, or *Isona* was the creator of all things and worshipped in many forms. According to Hernandez⁴ his son Bakab was born of a virgin who dwelt in heaven with God. In Arabic *bikr* "virgin" and *bakr* "pearl" led to the parthenogenetic origin of the pearl, and similarly among the Mayas the pearl myth was introduced in the story of the Great God, because *Itsamna* was etymologized as "the mother of pearl," from *itsam* "that which is cold, congealed," and *na* "mother." We also have Maya *its* "frost, cold, resin, dew," but it is not a native word, for it is absent from the other Mayan languages, except in Huasteca, where we have *itsam* "horn," *tsam* "snow, ice" and "snake." *Ketsalkowatl* was first known to the Huastecas, whose conical hat, the *kopilli*, of African origin,⁵ he wore, hence we get here the original meaning of *tsam* "snake" and "cold," precisely as in Mandingo *sa* "snake," *samanya* "rainy weather," *suma* "cold," all from the same Arabic "sky" word. In *itsam* "horn" we have a new meaning, to account for the pearl myth, since this "horn" is derived from the large marine conch, which was used for such purposes. This follows from the translation of the word into Nahuatl, where we have *teksistli* "large marine conch used as a musical instrument," from *tek* in *tekpatl*, Maya *tok*, "obsidian knife," and *sistli* "mother," so that here, too, we have "the mother of pearl," transferred to the conch, which bears witness to the presence of the pearl myth in Mexico. Mayan *its* was worked back

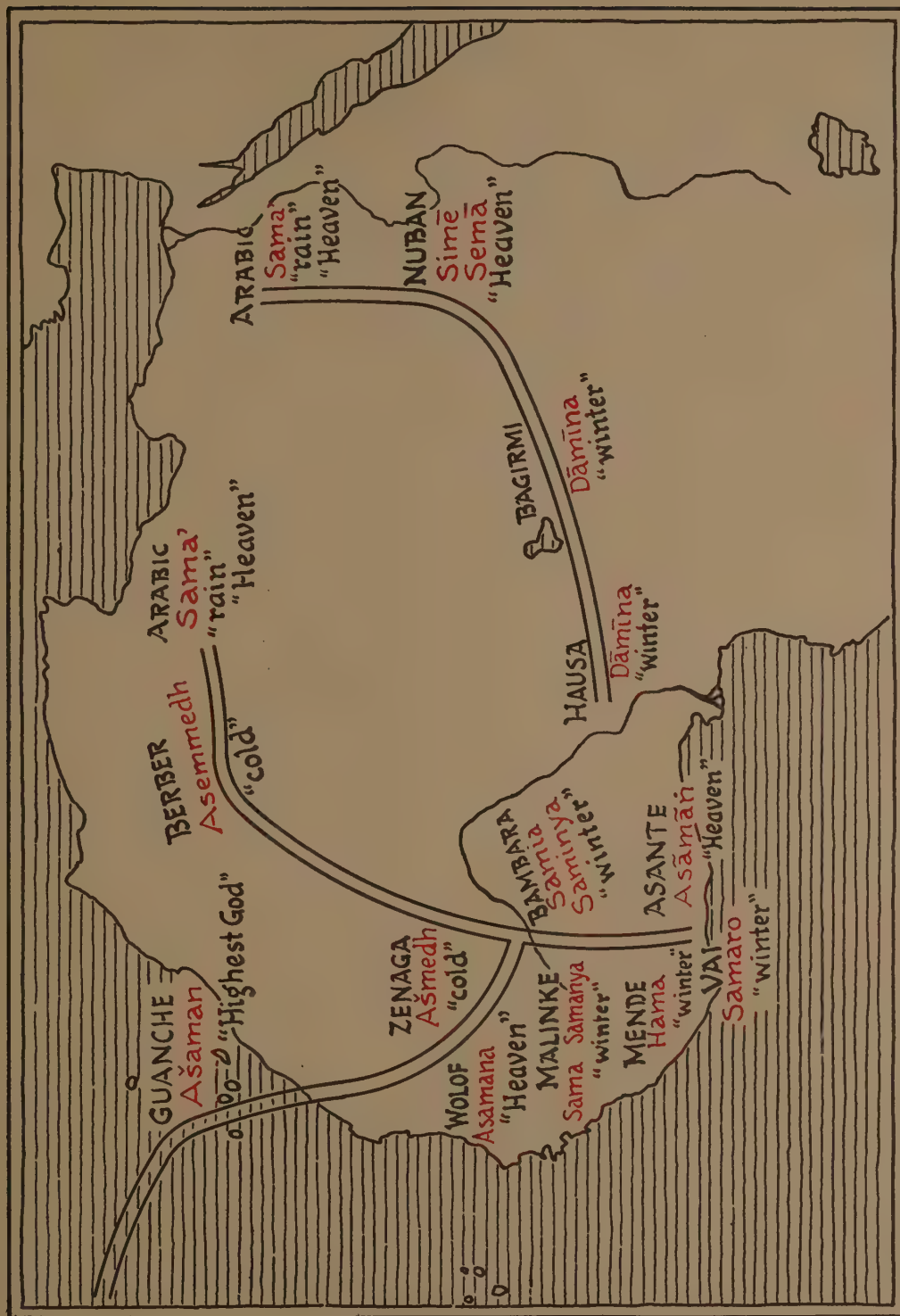
¹ Ephraem Syri *Opera omnia quae exstant*, Romae, 1743, Graece et latine, vol. II, p. 259 ff.

² See my *Africa*, vol. III, p. 222 ff.

³ See p. 44.

⁴ Seler, *Codex Borgia*, vol. I, p. 322.

⁵ See my *Africa*, vol. III, p. 321.



DISTRIBUTION OF ARABIC *SAMA* "RAIN, HEAVEN" IN AFRICA.



DISTRIBUTION OF ARABIC *SAMA* 'RAIN, HEAVEN' IN AMERICA.

from *Itsamna* and still preserved the Mande meaning "cold," but in Nahuatl it acquired in *itstli* the meaning "obsidian knife," but we also have *itstik* "congealed, cold," while in Maya *esanab*, *edznab*, the name of the glyph for "obsidian knife," we still have the fuller form from original *itsamna*.

In Mexico the birth of *Ketsalkowatl* is directly related to the "precious stone," that is, the pearl, for his mother *Čimalman* conceived him when she swallowed a *čalčiwitl*, a green or blue stone, and the further proof of the relation of this god to the pearl is found in the fact that the god, as a man, introduced the *čalčiwitl*, lived in a *čalčiwitl* palace, etc. His mother's name, *Čimalman* "lying shield," is unquestionably a popular transformation of *Itsamna*.

Ketsalkowatl represents a composite type in which historical data are hopelessly intermingled with religious and mythical concepts. At present we are interested chiefly in his identification with *Ehekatl*, the fructifying wind, that is, in his representation as blowing the rain-bearing winds inland. In this capacity he is represented on statuary with lips greatly extended and a mask of obsidian, of which also are his eyes (Figs. 67a-d), and as such he appears in all the Mexican manuscripts. In Codex Magliabecchiano (Fig. 68) he is represented as a bearded black god with an enormous red mouth extension. On his head he wears the *oselokopilli*, the conical hat of jaguar skin with a fan-like extension at the bottom. On his shield there is a cross device, clearly a conventionalized Tableau of the Bacabs. On his chest there is a *teksistli* conch and around his neck a row of sea shells. On p. 62 he is represented without the conical hat (Fig. 69), but instead with a device representing moon and stars. On p. 89 (Fig. 240) he is again represented as on p. 61, but his shield has the device of the conch shell. In the last two he does not wear his mouth extension. In all three a tatoo line running up and down divides the face into two parts. In Codex Fejérváry-Mayer (Fig. 70) he is the chastising god and his relation to the blue sky is indicated by a blue cotinga adornment on the fillet and various blue patches on his red body. His face is divided by the tatoo line into a blue back and a red front with long mouth extension. His eye bulges out in the form of a shell or an obsidian knife. On p. 35 (Fig. 71) his body is all blue and he has a fan in his hand, and thus appears in the transition form of *Yakatekutli*, of whom I shall speak later. In Codex Vaticanus No. 3773 we have a similar representation of the god (Figs. 72, 73), but an enormous *teksistli* is drawn across his body. A different kind of shell appears on pp. 75, 76 and in Codex Borgia, pp. 51, 56, 62 (Fig. 74), while on p. 73 we have the usual *teksistli*.

Sahagun¹ describes *Ketsalkowatl* as follows:

This *Ketsalkowatl*, although he was a man, was considered a god, and they said that he swept the way for the rain gods, and this they guessed because before the rains begin there are high winds and dust storms, and so they said that *Ketsalkowatl*, the God of the Winds, swept the ways for the rain gods to come and send rain. He was adorned with the following articles: on his head there was a miter with a panache of feathers called *ketsalli*. This miter was spotted like a tiger skin; his face and whole body were painted black; as a garment he wore a shirt worked like a surplice and reaching barely down to the waist. He wore turquoise earrings of mosaic work, had a gold necklace from which hung down precious small sea shells. He had on his back as a device a panache in the form of flames of fire, besides he wore stockings from the knees down made of tiger skin, from which hung down some small sea shells. His sandals were painted black and were bordered with marquesite. In his left hand he had a shield with a representation of five corners called the wind jewel. In his right hand he had a scepter in the form of a bishop staff. At the top it was turned like a bishop's staff and was worked with jewels, but it was not so large as a staff, hence it appeared as though he held a sword handle. [Fig. 75.]

The glyph *ehekatl* shows few variations and was clearly formed from the representation of *Ketsalkowatl* as the blowing wind (Figs. 76a-r). In the Mayan form of the glyph we have even more clearly the long nosepiece of the statuettes (Fig. 77). The conch or five-cornered shell found on the body of *Ketsalkowatl* represents the instrument through which he blows the wind, but it also connects him with the parthenogenetic origin of the pearl, hence his rich adornment of sea shells. In this capacity he develops into the God *Teksistekatl* "the Lord of the Mother of the Stone." *Tek-* suggests that obsidian was considered of as high value as the "blue" stone, and this is brought out in *Ketsalkowatl's* sandals, which were painted black and adorned with marquesite (*margagita*), since the name of such sandals, as worn by nobles, was *itskaktli* "obsidian sandals." We have already seen that the obsidian knife represents the moon in the water-vessel of the sky, instead of the usual hare. This is due to the fact that the obsidian knife is like the pearl of the mother of pearl, whose parthenogenetic origin, like the menstruation of the hare, connects it with the moon, hence the obsidian knife often stands for the moon, as, for example, in the representations of the night sky in Codex Borgia, pp. 32-46 (Fig. 33b).

In Codex Fejérváry-Mayer (Fig. 78) we have immediately after *Ketsalkowatl* the figure of *Teksistekatl*, whom the recess in the mouth and the beard stamp as an old god. His body is all blue except the back of the head,

¹ B. de Sahagun, *Historia general de las cosas de Nueva España*, Mexico, 1896, vol. I, cap. 5.

beyond the *Ketsalkowatl* tatoo line, which is red. He has at the head of the fillet the *teksistli* conch, and the obsidian knife in his panache, while the rest of the adornment is much like *Ketsalkowatl's*. The Moon God does not seem to have been well established, is not mentioned in Sahagun, and varies greatly in representation, agreeing only on the connection of *teksistli* and *tekipatl* with him, as in Codex Vaticanus No. 3773, p. 54 (Fig. 22), Codex Telleriano-Remensis, p. 13r (Fig. 79), Codex Borbonicus, p. 6, *Tonalamatl* of the Aubin Collection, p. 6 (Fig. 144).

We have already seen that the root *its-* in Nahuatl and Huasteca means either "cold" or "sea-shell" or "obsidian knife," the latter meaning arising from "sea-shell." The fuller form *itsam* in Maya combined with *kab* "earth" to produce *itsamkab* "the region of the cold, north" and *'itsamkabain* "whale," that is, "crocodile of the north." Thus even in Mexico *istli* became related to the north, and Stone Gods *Itstli*, *Itstla Koliuhki* "the Bent Obsidian Knife," who resided in the north, were formed. In the case of the latter we have clearly a representation of *Teskatlipoka*, who like "the Bent Obsidian Knife" represents justice and also wears a fillet over his eyes. The bent knife arose through a visualization of a metaphor. Olmos records *tepan koliwi iwey tetl iwey kwawitl* "to bend stone or wood over someone," for "to chastise severely," hence *Itstla Koliuhki* simply means "the Chastising God." This is well illustrated in Codex Telleriano-Remensis, p. 16v and 17r (Fig. 80), Codex Borbonicus, p. 12 (Fig. 81), and *Tonalamatl* of the Aubin Collection, p. 12 (Fig. 82), where the prostrate and bleeding transgressors are covered with *teme* "stones." In the last two pictures most of the other objects are blood-producing instruments or represent objects struck by the wrath of the Stone God, but we also have the night sky with the Tableau design of the moon, to represent the god's relation to the moon.

We thus arrive at the transformation of parthenogenetic *Ketsalkowatl* into *Teskatlipoka* "the Smoking Mirror" born from the obsidian knife, that is, originally from the sea shell. Here we have *istli* "obsidian" used as *teskatl* "mirror,"¹ and *Teskatlipoka* is the dim light that shines in the night, as we have just seen in the reference to the night sky in Codex Borbonicus. This is again an attribute of the Great God taken out of the Quran, Chap. XXIV, 35-40:

God is the light of heaven and earth, the similitude of his light is as a niche in a wall wherein a lamp is placed, and the lamp enclosed in a case of glass; the glass appears as it were a shining star. It is lighted with the oil of a blessed tree, an olive, neither of the east

¹ For the etymology of the word see my *Africa*, vol. III, pp. 299-302.

nor of the west: it wanteth little but that the oil thereof would give light, although no fire touched it. This is light added unto light. God will direct unto his light whom he pleaseth. God propoundeth parables unto men, for God knoweth all things. In the houses which God hath permitted to be raised, and that his name be commemorated therein! men celebrate his praise in the same morning and evening, whom neither merchandising nor selling diverteth from the remembering of God, and the observance of prayer and the giving of alms, fearing the day whereon men's hearts and eyes shall be troubled; that God may recompense them according to the utmost merit of what they shall have wrought, and may add unto them of his abundance a more excellent reward, for God bestoweth on whom he pleaseth without measure. But as to the unbelievers, their works are like the vapour in a plain, which the thirsty traveller thinketh to be water, until, when he cometh thereunto, he findeth it to be nothing; but he findeth God with him, and he will fully pay him his account; and God is swift in taking an account; or as the darkness in a deep sea, covered by waves riding on waves, above which are clouds, being additions of darkness one over the other when one stretcheth forth his hand, he is far from seeing it. And unto whomsoever God shall not grant his light, he shall enjoy no light at all.

The Arabic word for "glass," which appears as a shining star, is the one from which Nahuatl *teskatl* "mirror" is derived,¹ and the position of the blessed olive tree not in the east nor in the west left only the north or south for the "mirror" to be connected with, and, although the south is sometimes given, it is, with the god, more generally placed in the north, the cold region of *itsam*. Indeed, in Syria *samawi* "north" is in use, derived, like *itsam*, from the "sky" and "rain" word *sama'*. The utter darkness into which men are cast for their transgressions is connected with the dim light which alone they can see.

Teskatlipoka is often represented as arising from the mouth of the obsidian knife, which is due to the fact that he comes from the country of the north, *Itstlan*, but this *tlan* is in the Mexican documents invariably represented by the teeth in the mouth of death, because *tlantli* means "tooth." On p. 32 of Codex Borgia (Fig. 83) we have in the center the Stone God sitting on *sipatli*-earth in the conventionalized mouth of which we have a series of obsidian knives. Five variously-colored *Teskatlipokas* are given in an attitude of trying to withdraw a foot from the mouth of the obsidian knife. In the night sky all around we have still more of these *Teskatlipokas*; at the bottom the night sky has an opening and *Ketsalkowatl*, or, rather, the black *Teskatlipoka*, is appearing from the twin obsidian interior. On pp. 35, 36 (Fig. 84a) we have a number of *Teskatlipokas* in *Ketsalkowatl* make-up, and a number of *Ketsalkowatls* in *Teskatlipoka* attire. This becomes clear when we find the figures with the mouth extension of the Wind God, but

¹ See my *Africa*, vol. III, p. 302.

the torn-off foot of the other. On pp. 39 and 40 (Fig. 84b) we have similarly a large number of *Ketsalkowatls* with *Teskatlipoka* characteristics. Thus we have not only the identity of the two, but the important fact that "five" is the number of the one Great God, represented in *Ketsalkowatl* by the five-starred shell or Tableau of the Bacabs on the shield and by the five variously colored *Teskatlipokas*, which, as the various colors indicate, represent the five directions, north, east, south, west, and the middle, even as there are five *Tlaloks* similarly disposed. But *the Five are One*; that is the important point in the conception of the Great God, to which we shall ultimately return.

I shall not at present touch upon *Witsilopoçtli* beyond mentioning Seler's identification¹ of *opoçtli* with the south, even as *Teskatlipoka* is chiefly the God of the North, although also identified with *Witsilopoçtli*, the God of the South. *Teskatlipoka* is generally made to arise from the obsidian knife at the crossroad. In Codex Fejérváry-Mayer, p. 2 (Fig. 85), we have, under the sign *ehekatl*, a white *Teskatlipoka* or *Itstli* figure stepping out of the *itstli*, while beneath it is a crossroad with an object beneath it pointing in two directions and a small animal nibbling at it, and still lower down there is a man with split penis and blood issuing from his breast, obviously a transgressor of some kind. In Codex Vaticanus, p. 19 (Fig. 86), we have *Itstli*, while the animal at the crossroad is distinctly a hare, which connects the god with the moon. He is similarly represented in Codex Borgia, on p. 14 (Fig. 87), where one torn foot is in the water, another in *itstli*; he is again connected with the crossroad, a package, and a hand, giving the two directions, right and left. In Codex Fejérváry-Mayer we have before the last page (Fig. 88), which gives *Teskatlipoka* as the god of the four directions, a crossroad, apparently with a bundle of the merchants in the middle and the two hands pointing right and left.

We have now to explain why *Teskatlipoka* is connected with the crossroad and loses a leg. Peter Martyr tells us that in the West Indies a violent storm was called *furacan*, which shows that the Wind God was thus named there. From Popol Vuh we learn that among the Kiches *Hurakan*, the Heart of the Sky, was the chief god, and this was clearly etymologized as "one is his foot," but this etymology took place first among the Huastecas, where we have *hun* "one" and *aqan* "foot." This passed over into Maya as *hunuqu* "lightning flash" and *hunabqu* "the One God," from which developed Maya *qu* "god, temple," for the latter sense of which the form *quna* is given, as though it meant "the place of God," though this is, no doubt, the original

¹ *Codex Borgia*, vol. II, p. 131.

form, so that we must have had a word something like *hunaqun* for the Great God. Another Maya name for this god is *Hunahau*, where *hau* is represented by the hieroglyph of a round vessel with a hare, that is, the moon, so that we have here clearly another etymologizing for *Teskatlipoka*.

We have accounted for his "one foot," and now we must account for the crossroad, where he was worshipped. Martyr's *furacan* is the Arabic *Furqān*, the Quran, which has become confused with the revealer of the *Furqān*, as in Chap. XXV, 1-5: "Blessed be he who hath revealed the Furqan unto his servant, that he may be a preacher to all creatures: unto whom belongeth the kingdom of heaven and of earth: who hath begotten no issue; and hath no partner in his kingdom: who hath created all things, and disposed the same according to his determinate will. Yet have they taken other gods besides him; which have created nothing, but are themselves created: and are able neither to avert evil from, nor to procure good unto themselves; and have not the power of death, or of life, or of raising the dead." This *furqān* is from *faraqa* "he made a separation between two parts," hence *furqān* "anything that makes a separation between truth and falsity, the time a little before daybreak or dawn, proof, evidence," *fāriq* "those angels that descend with what makes a distinction between truth and falsity, between things as God has commanded them," *munfaraq* "a place where a road divides." Thus we arrive at the essential meaning for the Great God as *Ketsalkowatl-Teskatlipoka* "the God at the Crossroad, the just judge, the indicator of the right road." This opens up a new series of words connected with *Itstli*. We get Nahuatl *itskali* "direction right or left," literally "the house of *itstli*, north, south," *itstilia* "to guide," Maya *itsat* "wise"; hence Nahuatl *itta* "to see" is most likely of the same origin. *Teskatlipoka* can see in the dark, and so he is represented as *iskimilli* "with eyes tied," as in Codex Vaticanus, p. 31 (Fig. 89), while on p. 39 (Fig. 90) he, in addition, grasps the entrails of the transgressor in the dark, in which may be seen the *itstopolli* or stone hatchet, the emblem of justice, while in Codex Borgia, p. 12 (Fig. 91), this hatchet is placed on a royal throne. On p. 15 (Fig. 92) we have the obsidian knife instead of the hatchet, shining in the dark.

In Maya we have *šaman* "north," which shows its relation to the Arabic "rain, sky" word, but more nearly to Huasteca *tsam* "cold." Here the south is expressed by *nohol*, from *noh* "right," originally "great." In Nahuatl, *itskali* refers to either direction, and although *its-* shows a preference for the cold north, the south became *itstlan* "cold country," transformed to a *siwatlan* "country of women" and *witstlan* "country of thorns." To the Mayas the south was the pleasant, right region, to the Mexicans it was the

unpleasant, left region; hence the *Teskatlipoka* of the south became the *Itstliopoçtli* "the left *Itstli*," also transformed to *Witsilopoçtli* "the left humming bird," while Mendieta records for it *Usilopoçtli*, *Oselopoçtli* "the Left Jaguar," which shows another transformation. By another conception the Mexicans called the south "the good *itstli*," just like the Mayas, and so named it, transforming it to *witstli* "thorn," *witsnawwa*, the latter from *nawatl* "good." The transformation to *siwatlan* "land of women" is coincident with peopling the south with five *witsnawwa*, companions of *Mak-wilšoçitl* "Five Flower," again a pentad, to correspond to the pentad of *Teskatlipoka* and the *weweteteo* in the north. *Witsilopoçtli* was born like *Teskatlipoka*, except that it was a rubber ball, and not a pearl, by which his mother conceived. In Codex Fejérváry-Mayer, p. 25 (Fig. 93), *Witsilopoçtli*, with *tonalli* "sun," is opposed to *Teskatlipoka Itstlakoliuhki*, with *setl* "cold," and, on p. 40 (Fig. 94), the Wanderer of the North with the *ketsal* bird is opposed, on p. 39 (Fig. 95), to the Wanderer of the South with the rubber ball and humming bird. Although he was the great warrior god of the Mexicans, he is not often represented in the manuscripts and has no special characteristics.

VII.

Tonakatekutli and the God of the Merchants.

IN the Quran we have frequently references to God the Provider, who has created woman for man's pleasure, as in the following passages of Chap. XXX:

And of his signs another is, that he hath created you, out of yourselves, wives, that ye may cohabit with them; and hath put love and compassion between you: verily herein are signs unto people who consider. And of his signs are also the creation of the heavens and the earth, and the variety of your languages, and of your complexions: verily herein are signs unto men of understanding. And of his signs are your sleeping by night and by day, and your seeking to provide for yourselves of his abundance: verily herein are signs unto people who hearken. Of his signs others are, that he showeth you the lightning, to strike terror and to give hope of rain, and that he sendeth down water from heaven, and quickeneth thereby the earth, after it hath been dead; verily herein are signs unto people who understand. . . . When we cause men to taste mercy, they rejoice therein; but if evil befalleth them for that which their hands have before committed, behold, they despair. Do they not see that God bestoweth provision abundantly on whom he pleaseth, and is sparing unto whom he pleaseth? Verily herein are signs unto people who believe. . . . It is God who hath created you, and hath provided food for you: hereafter will he cause you to die; and after that will he raise you again to life.

To get at the evolution of *Tonakatekutli* and *Šiuhtekutli* we must first establish the history of *šiuh* in Aztec. I have already shown how a series of Arabic words led in Malinke and Bambara to *sa*, *sā* "heaven, rain, year, time, death, serpent."¹ Arabic *sā'ah* "hour, instant, death," from which some of these have been derived, has had a chequered career in Mande. We have Bambara *sasa*, *sasan*, *sisan*, *sisannina*, Malinke *sasā*, *sañ*, *sigē*, *sisā* "now," all derived from *sā* "year, time," which reveal a secondary form *si-*, actually found in Bambara, Malinke *si* "duration of time, life, generation, nature, essence." But *sí*, *sisā* lead at once to a confusion in Bambara and Malinke, and only here, with homonyms for "grass" and "hen" which lead to extraordinary results in America.

The Arabic *ḥašīš* "hay, grass" was adopted by the Berber languages for "grass," and we find Tamazirt *leḥšīš*, Beni Menacer *ḥašīš*, Harakta *aḥšīš*, Shawiah *ḥšīš* "grass," hence Hausa *āci*, *ciawa*, *kiawa* "grass." Unfortunately, the dictionaries avoid this word, and the original form in Malinke and Bambara can be ascertained only indirectly. Soso *sahe*, Soninke *sokke*

¹ See my *Africa*, vol. III, p. 311 ff.

"grass," Bambara *ti*, *t'i*, Malinke *ti* "hay" indicate an original *ši*, *šiši*, so that a homonymy between "year" and "grass" is established. On the other hand there is a homonymy between these and "fowl" which demands a fuller investigation, since the origin of "hen" words in Africa is of enormous consequences for the establishment of the Bantu migrations, as already observed by Sir Harry Johnston. This is not the place for discussing the matter, but it must be pointed out that among the Bantus the chief forms for "fowl" are *kok* and *sus*, *džus*, both directly derived from Arabic *duḡāḡ*. These forms of *kok* and *sus* lie at the base of nearly all "fowl" words in Africa. In Malinke we get *sise* "fowl," which gives us the new homonymy.

In America we similarly get *ši*, *šiš* for "grass, green, blue, and year" and from the association of both with "water" we have the further association of these with "turkey." We have Maya *šiu* "grass," *yaš*, *yaaš*, *yašil* "blue, green, first," the meaning "first" arising from the association of "blue" with "excellence"¹ as may readily be seen from Maya *yašiltun* "bead, pearl," literally "blue stone." Mam *čaš*, Chol *yuš*, Cakchiquel, Pokonchi, etc., *raš* "green, blue," Huasteca *yašni* "green," *yašušul* "blue" indicate that *ši*, *aši*, *ašiš* were the words from which the Mayance words were derived. The Nahuatl words of this series are more instructive. Here we have *šiwitl* "grass, leaf, year, turquoise, comet," hence *šiuhyoa* "to grow," *šiuhyotia* "to blossom, be covered with leaves," *šišiyuhtla* "garden." Huasteca *yašušul* "blue" shows that Nahuatl *šošuuhki*, *tešotli* "blue" are similarly derived from an original "grass" word. This is also brought out by Nahuatl *šopan* "spring, summer," where we have Maya *yaškin*, literally "green days." From Nahuatl *šopan* we get *šopalewak* "very green, precious," hence in *šopalewak* "father, mother, chief, governor." We get the same root in *šokotl* "fruit, apple," *šokoya* "to be sour." By the side of *yašil* in Maya we also find *č'el* "blue," and this indicates that in Nahuatl *čalčiwitl* "emerald, turquoise" we have merely a reduplicated form, from the same word as Maya *č'el* "blue" and Nahuatl *šiwitl* "blue." This reduplicated "emerald" word became the equivalent of "excellent, very precious," hence "young man, virgin."

The popularity of the Arabic "grass" word in Africa is due to the introduction of cutting grass for hay, as the root *ḥš* in Arabic indicates, namely, "to cut grass with a scythe," and, indeed, we find in Zenaga *teḥaš* "to reap," hence the Mandingo "hay" word is related to it. Thus it happens that in the Mande languages "green" and "blue" are derived from grass in the state of hay, for we have Bambara *tiwela* "green, blue," in Wolof *ɓievali* "blue,"

¹ See my *Africa*, vol. II, p. 237 ff.

ntioy "green," *ntioyelo* "to become green." I have already pointed out that "blue" is the precious color in Africa,¹ and things of excellence are connected with it, hence the same correlation in America is due to the previous pre-eminence of blue beads in Africa, even as in America greater value was placed on blue beads, hence on turquoises and emeralds, for "green" and "blue" are constantly confused both in Africa and in America.

The Mexican glyph *širwitl* is usually represented by a blue circle with four blue spots on its circumference and a blue bar in the center dividing a red nucleus (Fig. 96a), but there are many variations of this glyph. In Codex Nuttall we have a series of concentric circles, some red, others blue (or green), studded with a circle of small circles, and at the four or eight corners there are other larger circles, and the latter are sometimes absent (Figs. 96b-g). When the predominant color is green this glyph seems always to read *čalčirwitl*, for Peñafiel thus represents *Čalko* (Fig. 96f), and so it is always read by Seler. Now the God of the Sky is identical with Rain and Serpent, and rain calls for blue, while the pre-eminence of the Great God calls for either blue or green as the colors of what is especially precious; hence we get the God *Ketsalkowatl*, "the Green Snake," since the *ketsal* feathers are green, and this is a metaphorical expression for "the Precious, Great Sky God." I have already pointed out the curious parallelism in Nahuatl *koatl*, *kowatl* "snake, hoe," Maya *kan* "heaven, snake," with the corresponding Mande words, and now, from the origin of "green" and "blue" from "to cut with a sickle," this peculiar correlation becomes obvious.

Tonakatekutli, who appears to be derived etymologically from *tonakayotl* "provision," and not from *to-naka* "our flesh," as usually referred to by Seler,² is represented in Codex Borgia (Fig. 190) as a royal personage sitting on the jaguar-skin seat opposite *sipatli*, that is, the earth. A beard of white feathers and an indentation in his lower lip, possibly a single tooth, designate him as an old god. Above him we find a human pair, under one coverlet, which corresponds to the creation of woman for man, as mentioned in the Quran. Before proceeding to the other gods of his type we must discuss the evolution of Nahuatl *šo-* "green." We have Nahuatl *šotlaka*, *šočitl* "flower," *šotla*, *šočilia* "to blossom, get enflamed," and that these are derivatives of *šo* or *šouh* is shown by *šočiwia* "to enchant, cajole," that is, "to speak in flowery words," for which we also have *šošuia* "to enchant," and the significant *šošowitl* "the blue color of the sky." As *Tonakatekutli* is not only the god who created earth, as represented by *sipatli*, but also the creator of everything that grows, he is constantly confused with or changed into

¹ See my *Africa*, vol. II, p. 237 ff.

² *Codex Borgia*, vol. II, p. 79.

Šočipilli "the God of the Flowers," while his female counterpart *Tonakasiwatl* is similarly changed to *Šočiketsal* "the Flowery Green." In Codex Borgia, where *Tonakatekutli* is given, we have on the same page *Tonatiuh*, the Sun God with the glyph *atl*, *Ketsalkowatl* with the glyph *ehekatl*, and the Goddess *Šočiketsal* with the glyph *šočitl*, while above her is *Ilamatekutli*, the Old Goddess,¹ recognizable by the indented lower lip and white hair, preparing flour on the grindstone. On p. 60 (Fig. 97) we have *Tonakatekutli* in jaguar-skin attire, and the beard and indentation in the lower lip designate him again as an old god. Opposite him is *Tonakasiwatl* in eagle attire, with *šočitl* in her hand, and above the two is a snake in a vase, that is, rain. Here *Tonakatekutli* is represented as the warring, avenging god.

The interpreter of Codex Telleriano-Remensis on p. 8a wrote below the picture of *Tonakasiwatl*, "God, Lord, Creator, Ruler of everything . . . all these names were applied to God *Tonakatekutli*, of whom they say that he created the world, and so was represented with a royal crown as being master over all." In Codex Vaticanus *Tonakatekutli* (Fig. 98) seems to be confused with *Šočipilli*, for the characteristics of old age are absent, and on p. 73 *Šočipilli* has the sign *sipatli* in front of him. In Codex Fejérváry-Mayer we have the following old gods, as indicated by the recess in the lip and the beard: *Istak Miškowatl*, "the White Cloud Snake" (Fig. 99), *Sipaktonal*, "Crocodile Sun" (Fig. 100), *Teksistekatl* (Fig. 78), but all three are merely variants of the same sky god. Similarly the goddesses *Ilamatekutli* (Fig. 101), *Tonakasiwatl* (Fig. 102) have the recess in the lip, which characterizes them as "old." *Istak Miškowatl* is also represented in Codex Borgia (Fig. 103) opposite *Ilamatekutli*, and both are here represented as "old." "The White Cloud Snake" is merely another name for "the Milky Way," and we have, according to the interpreter of Codex Vaticanus No. 3773, another name for him, *Sitlallatonak* "the Ruler of the Stars," and his sign is that of the Milky Way.²

We have already seen that Nahuatl *šotla*, *šočilia* passes over from "to blossom" to "to get enflamed." We have *šotlak* "flaming hot, open, blossoming," *tlašotla* "to burn," but we also have Nahuatl *šotla* "to cut in strips." Maya has borrowed this Nahuatl root, and we have *šot* "to cut" and "to blossom," *šot* "piece, to cut." All these seem to be due to the term *šočitl* "flower," which refers to the fall opening and coloring, that is, red, since *šočitl* chiefly refers to "rose." Maya has not borrowed Nahuatl *šočitl* but *šiwitl* to express "blossoming." Thus we have *šit*, *šit* "to open (of flowers),

¹ See my *Africa*, vol. III, p. 305.

² Seler, *Codex Borgia*, vol. I, p. 78 f.

blossom," *šit* "to open up," and *šiu* "grass." We see that Nahuatl *šiuh* must also have had the meaning "to burgeon, burst into color," and this is proved by *šiwitl* "comet," that is, "a star which, like a flower, bursts into color." We see at once how *Šiuhtekutli* came to be the God of Fire, that is, of Lightning or anything that bursts into flame.

In Codex Fejérváry-Mayer he is found right in the beginning, in the center of the *tonalamatl*, with flames darting in four directions, he himself holding a bundle of spears in one hand and a throwing-stick in the other (Fig. 104). Seler takes the flames to be blood, but it is evident that here flaming fire is meant, for in the four corners of the *tonalamatl* we find the dislocated continuations of these streams, one of which ends in the sign of fire, another in *Teskatlipoka's* stump of a foot, the third in a face of *Šiuhtekutli*, while the fourth ends in a hand, which most likely means *Itstli*, another form of *Teskatlipoka*. The god has the characteristic black lower part of the face and a black stripe near the eye. That he is a sky god is proved by his *šiuh* attributes, his blue cotinga tiara and blue cotinga fillet, and this attribute of an "avenging" god is shown by the jaguar ear on his head.

It is clear that the stripe on *Šiuhtekutli's* face is due to the connotation "to cut in strips," which the "blossom, fire" words have, and it is not difficult to derive "to cut in strips," from "to burst open (of flowers)," as I have tacitly done above, but this is mere etymological speculation by the Mexicans and Mayas, due to a mere coincidence of sounds, as shall now be shown. I have already pointed out¹ that in Africa a large number of "hoe" words are derived from Arabic *sauqar* "pickaxe." We shall now pursue the subject further. The Arabic word, also found as *saqur*, is borrowed in Arabic. It is from the Latin *securis* "axe," through Aramaic *sekuria*.² From this the Arabic developed the root *saqara* "he broke stones, struck, lighted the fire, made the flame burn fiercely." We find sporadically in Berber *ašaqquṛ*, *išūq-qar*, *tašaqurt* "axe," *šūqquer* "to cut with an axe." To confine ourselves to the Western Sudan, I shall give only a few of the very many forms derived from the Arabic word. We have Malinke *tegela*, (Mandingo) *terango*, that is, *tegera*, Bambara *tije*le, etc., "axe," obviously changed from *segera*, since in Mande *š* generally changes to *t* or *s*. From this we get Soso *sege* "to cut," Malinke *tege*, *teh*, *te*, *t'i* "to cut, divide, cross over, break," *tege*li, *teli* "breaking," Bambara *tege*, *tike* "to cut, cross over, stop, break," hence *tegeba*, *tikeba*, *tikela* "instrument for cutting," *ti*, *t'i* "to break, strike, just appear (of the sun), tattoo," Dyula *tige* "to cut, cross over," in all of which we have the

¹ See my *Africa*, vol. III, p. 312 f.

² S. Fraenkel, *Die aramäischen Fremdwörter im Arabischen*, Leiden, 1856, pp. 84 f.

Arabic *saqara*, although an influence of Arabic *šaqq* "he cut lengthwise, split" may also have entered into the formation of the Sudanic "cut" words.

In Nahuatl we have not only *teki* "to cut," but also the Bambara *tikeba* in the form of *tekpatl* "obsidian stone," that is, "knife," but we also have the more primitive *šeliwi*, corresponding to Bambara *tele*, for "to cut through the middle, divide." We also have Maya *šel*, *šet*, by the side of *šiit*, *šot* "to cut," Pokonchi *šerem* "to cut in bits," *ši* "to tear," *šilaq* "room between," etc., and we also have Maya *šik* "to split, break to pieces." Although there is a complete agreement between the African and American words, it appears that the Arabic meanings of *saqara* "to break stones, light the fire, make the flame burn fiercely" and of the Bambara meanings of *ti* "to cut, break, just appear (of the sun), tatoo" were bodily transferred to the "grass" word in Nahuatl, where *šiuh* was connected with "to cut in strips, tatoo, burn up," so that *Šiuhtekutli*, originally the God of the Hearth Fire, was transferred to the sky on the basis of the wrong etymology. And there was a reason for this confusion, since Bambara, Malinke *ti*, *ti* also means "straw," originally "grass," and this is derived from the Arabic *ḥašš*, which itself means "to cut with a sickle." We have the further confusion in Bambara, where *tiba*, *tila* means both "he who cuts grass" and "he who breaks, tatoos."

The God *Šiuhtekutli* is considered to be the first of the gods, the creator of all, and was called Our Father and the Old God, but he has neither the recess in the lip, nor the beard to designate him as such. His face is tatooed by a long stripe, and in the Codex Borgia he is distinctly connected with the fire on the hearth, as which he appears on p. 14 (Fig. 105). Fortunately it is possible to trace this god back to the African source by a rare word for fire, namely Wolof *safara*, hence *safa* "to roast." Throughout Africa this word refers to "journey, trader," and this occurs in Wolof only in the corrupted form *sopandiku* "trader." The question arises how this transference to "fire" took place. We have Arabic *safara* "he removed, dispersed, the sun rose, it shone before its rising, he made the fire to flame, he went forth on a journey," hence *safīr* "whiteness before night," *safar* "journey, the whiteness of dawn." Besides this, *safara* is used to express the idea "to perform prayer in the shining of the dawn": "Regularly perform thy prayer at the declension of the sun, at the first darkness of the night, and the prayer of daybreak; for the prayer of daybreak is borne witness unto by the angels."¹ To the latter Baidhawi remarks: "the guardian angels, who, according to some, are relieved at that time; or else the angels appointed to make the

¹ *Quran*, chap. XVII, p. 80.

change of night into day." Thus we see that in the mind of the Wolof the journey, on which he always set out at dawn, was connected with the bursting forth of the dawn, the making of the fire, and the first angel of the day.

I have already pointed out that in the Mande languages Arabic *tarḡamān* "interpreter" took the place of the other Arabic "voyager, merchant" word and led to Malinke *taḥoma*, *tama*, *ta* "to walk." But we also have Malinka, Bambara *ta* "fire," and the longer *tasuma* "fire" bears witness to the fact that we have here the same *taḥoma*, *tohoma* as before. Here we again get the confirmation of the fact that in the Negro mind "voyage, dawn, fire" was connected with the religious observances of the trader, for we have Malinke *toḥoma* "to march" and "to observe religious rites," as in *Alla Sila toḥoma* "to observe religion." We have also the *tarḡamān* root in Wolof *doḥa*, *doḥe* "to walk" and Peul *d'aha*, *yaha* "to walk," *d'ahale* "voyage," *yare*, pl. *d'ahē* "scorpion."

The relation of the scorpion to "walk" is not accidental, but intrinsic, since the morning prayer is in the Arabic mind closely related to the scorpion. Ad-Damīrī says:

One of the learned men of ancient [Islāmic] times says that whoever says at the commencement of a night and the commencement of a day, "I have tied the claw of the scorpion, the tongue of the serpent, and the hand of the thief, with the formula, 'I bear testimony that there is no deity but God, and I bear testimony that Muḥammad is the Apostle of God!'" will be secure from being stung by a scorpion, bitten by a serpent, and robbed by a thief.

Mālik and the general body of the relaters of traditions, excepting al-Bukhārī, relate on the authority of Abū-Hurairah, who said, "A man came to the Prophet and said, 'O Apostle of God, how much I have suffered from a scorpion which stung me last night!' The Prophet replied, 'As to you, had you said when the evening set in, 'I take refuge with the perfect words of God, from the evil of all created things!'" it would not have injured you, if it had pleased God.'" It is related in the *Kāmil* of Ibn-'Adī in the biography of Wahb b. Rashid ar-Rakki, that the above-mentioned man was Bilal. It is related in the version given by at-Tirmidhi, "Whoever says three times when an evening sets in, 'I take refuge with the perfect words of God from the evil of all created things,' will not be injured by the venom of a scorpion that night." Subhail states, "Our people used to say that every night; one night, however, a scorpion stung a slave-girl out of them, but she did not experience any pain from it." He states that this tradition is delivered on respectable authority. The *words of God* are the Kur'an, and the meaning of their being *perfect* is that there is no shortcoming or defect in them, such as exists in the words of men. Some say that it means *profitable* and *sufficient* to render one independent of all other things with which refuge is sought. Al-Baihakī states that they are called *perfect*, because it is not possible for a shortcoming or defect to exist in the words of God,

¹ See my *Africa*, vol. II, pp. 105 f., 112 f. But see also above, p. 25.

in the manner in which it exists in the words of men. He adds, "I have heard regarding the Imam Ahmad b. Hanbal that he used to cite this as a proof of the Kur'an not having been created," as will be mentioned hereafter under the letter in the art.

Abu-'Umar b. 'Abd-al-Barr relates in *at-Tamhīd* regarding Sa'īd b. al-Musayyab as having said, "I have heard that whoever says when the evening sets in 'Peace upon Noah among men!' would not be stung by a scorpion!" 'Amr b. Dinar states that among the means to be adopted to prevent the scorpion from injuring anybody is to say at night or during the day, "Peace upon Noah among men!"

In *at-Tamhīd* by Ibn-'Abd-al-Barr, it is related in the biography of Yaḥyà b. Sa'īd al-Ansārī, in the twelfth out of his *Balāḡāt*, that Ibn-Wahb said, "Ibn-Sam'ān has informed me, 'I have heard one of the learned men say that, if a person is stung or bitten, that is to say, if a serpent bites him or a scorpion stings him, let the bitten or stung person recite this verse, "He was called to, Blessed be he who is in the fire, and he who is about it! and celebrated be the praises of God, the Lord of the worlds!"'¹

From this we see that the scorpion was connected with fire and the morning prayer, but he was more particularly connected with the merchant, because the constellation of the Scorpion was abhorred by the traveler as being connected with the time when it was dangerous to travel on account of the bad weather, wherefore Arabic *'aqrab* means not only "scorpion," but also "hardship, severity, difficulty, intense cold of winter," and Qazwīnī says that the Arabs did not like to travel when the moon had its mansion in the Scorpion.² In the African languages the scorpion is generally connected with "fire" and "to shoot." Thus we have Hausa *kunama* "scorpion" and *kuna* "to burn," Malinke *buntenin*, *bundo* "scorpion" and *bun* "to be pierced by a weapon," *buna* "gunpowder," but all these Mande words are derived from Arabic *bunduq* "to shoot with balls," the original meaning of this late word being "ball," hence, ultimately, "scorpion" is related to "round," a fact which is already found in Arabic *'aqrab*, which also means "to make round, curve." It is, therefore, no accident that in Nahuatl *kolotl* "scorpion" we have a derivative of *koloa* "to curve," and in Maya *sinan* "scorpion" a derivative of *sin* "to stretch a cord," that is, "to shoot," and in *ekčuh* "black scorpion" a derivative of *čuh* "to burn."

If we now once more turn to the representation of *Šiuhtekutli*, we can understand why he is so often represented with the scorpion, as in Codex Vaticanus, where on p. 57 (Fig. 106) we see him coming down in a stream of *atl-tlačinolli* pierced by arrows, on p. 32 (Fig. 107) where he similarly descends on a stone representing *atl-tlačinolli*, while the god himself is within the water, which bears the signs of *atl* and *tlačinolli*, while on p. 19 (Fig. 108) he places upon the hearth a bundle of spears, which stands for

¹ Jayakar, *op. cit.*, vol. II, pt. I, p. 354 f.

² *Op. cit.*, p. 100.

the wounding caused by the scorpion. In his ninth book Sahagun tells of the preëminent worship of *Šiuhtekutli* by the merchants, who burnt paper offerings to him at night before their departure and upon arrival, also at night sacrificed to him and to *Takatekutli*, God of the Merchants, but their chief celebration was at the break of day. Before their religious ceremony they took a bath and washed their feet, for they made no ablutions during the journey. This is in keeping with the original Mohammedan injunctions: "O true believers, when ye prepare yourselves to pray, wash your faces, and your hands unto the elbows; and rub your heads, and your feet unto the ankles; and if ye be polluted by having lain with a woman, wash yourselves all over. But if ye be sick, or on a journey, or any of you cometh from the privy, or if ye have touched women, and ye find no water, take fine clean sand, and rub your faces and your hands therewith: God would not put a difficulty upon you; but he desireth to purify you, and to complete his favour upon you, that ye may give thanks."¹ We have but few representations of *Takatekutli*, etymologically "the Lord of the Nose," but, since *yakana* means "to lead, guide," we really have here "the Lord who Guides," who is a mere offshoot of *Šiuhtekutli*. In Codex Fejérváry-Mayer we have (Figs. 109, 110) two traders with walking-sticks and heavy loads on their backs between two long-nosed gods. The one behind has a lance in one hand and what appears to be a fan in the other, while the one in front indicates the roads on the crossway. The two gods are both "blue," and thus indicate their belonging to the same category as the other *šiuh*- gods. Fortunately we can show that this *Takatekutli* arose from a false Malinke etymology. Malinke *luñ*, *duñ* "day" has led to the connotation "a journey lasting a day," as may be gleaned from Wolof *yonne* "road, space which leads from one place to another," Peul *yontude* "everything which is repeated periodically," hence *yontere*, pl. *d'onti*, "week," *yonla* "to pass the day." This also led to Khasonke *luntandin* "that which passes, stranger," Malinke *dunã*, *nuntã*, *luntã* "traveler, stranger, guest," and here *nuntã* etymologically coincides with *nun* "nose," as though "to travel" meant "to go where the nose leads." That the derivation from "day" is correct is proved by Dyula *la* "day, time, to march, sleep." We have from this Maya *omon* "stranger, traveler," *numul* "to travel," *numulbe* "traveler," *numay*, *nomay* "that which passes," for which there is no Maya etymology. In Nahuatl we have *on-* which marks "a certain distance," as in *onewani* "he who goes somewhere," *onotiuħ* "to lead somewhere," but it also means "to stay overnight," as in *onoyan* "bedroom," *onok* "to sleep," *onowayan* "inhabited place," which in form and meaning

¹ *Quran*, chap. VII, p. 5.

coincides with the Wolof and Peul words. But the Nahuatl formed *yakana* "to lead," from *yakatl* "nose," to keep the Malinke etymology, and created out of nothing a long-nosed god, who is barely met with in Mexican picture writing, but is of great importance among the Mayas, as we shall presently see.

It is not possible to draw precise lines of demarcation between the various old gods discussed, because in the minds of the Mexicans there was no definite cosmogony, and one passes easily from one identification to another, but there stands out the fact that the old gods are merely personifications of the attributes of the Quranic God in Heaven, in so far as they refer to the beneficent qualities and purposes of the rain. When we deal with rain as such, we get *Tlalok*; as the wind which carries the rain inland to distribute over the earth, we have *Ketsalkowatl*; as the producer of provisions and the creator of man and woman, we get *Tonakatekutli*, who is also the avenger, the judge. Possibly *Istak Miškowatl* is to be included in this company as the creator of the clouds; but chief of all is *Šiuhtekutli*, although not originally the Sky God, since he is the first to be invoked at break of day and through the Arabic traders was most impressed upon the Negro colporteurs, who bequeathed him with *Yakatekutli* to the American traders and the people at large.

VIII.

The Mayan Water Glyphs.

ON the last page of Codex Dresden (Fig. 111) we have water descending from the sky in digitate streams, as in Mexican picture writing, twice from the sign *kaban* (*olin*), and once from a sky beast with the head of a snake. An old black god with a water-eye and a rainbird on the head holds two spears in his hand and a throwing-stick in the other. An old goddess, recognizable by the single tooth and recess in the lower jaw, the water-eye and a snake on the head, is pouring out of a jar a copious stream of water, in which two shells are visible, so that here, as in Mexico, shells are used to identify "water." This is made even more apparent on p. 34 (Fig. 112a), where *Čak* is standing between two streams of water descending from two shells, and on p. 36 (Fig. 112b) a stream of water similarly descends from a shell.

The most common representation of "water" is a series of blue lines or dots within a snake-vessel, formed from the contortion of a snake, as on pp. 33-35 (Figs. 112c-f), but we also have the simple vessel with blue water on pp. 34, 38, etc. (Figs. 113a, b). Occasionally blue water is represented without a vessel, but with a boat in it, to represent the ocean (Figs. 114a-c). Once, *Čak* is seen standing in something which has no blue color, but which is at once recognized as intended to be water by the curly formation of the surface (Fig. 115a). Although water descending from the sky (Fig. 115b) is on p. 67 represented with the same digitate formation as on the last page of the manuscript, it elsewhere is represented only by parallel blue lines. On p. 67 we have water with the curly surface, while a fish and two shells are visible in the blue water, one of these shells being of the conch variety (Fig. 116a), and on p. 37 (Fig. 116b) this conch is represented with a child issuing from it, so that we have again the story of the mother of pearl.

Very nearly the same representation of water may be seen in Codex Tro-Cortesianus.¹ Here (Fig. 117) *Čak* and a female attendant are represented

¹ In most of the known Mexican codices the order of reading is from right to left, in the direction of the figures walking. The same is clearly true in the Mayan codices, and, since most Mexican codices begin with the *tonalamatl*, we must place the Tableau of the Bacabs in Codex Cortesianus as pp. 1 and 2, which leaves one stray page before it to be associated with a similar stray page in Codex Troano. Counting to the left in Codex Cortesianus up to p. 20, we exhaust one side of this MS. Here we arrive at Plate 1 (2d part) of Brasseur de Bourbourg's calculation in his edition of Codex Troano, which most resembles p. 20 of Codex Cortesianus, and this we number p. 21, which brings us to Plate 35 (2d part), which thus becomes p. 55. As the next page in the reverse of Codex Cor-

pouring water from pitchers, and the water descends in blue rippling lines. The same rippling lines descend from *Ketsalkowatl's* breasts and lower parts, while the rain-beasts appear in similar blue streams (Figs. 118, 119). In another place (Figs. 120, 121) copious rain comes down from the *kaban* (*olin*) signs in the sky above. We have water from the sky also conventionalized on p. 62 (Fig. 122), while water in the snake-vessel is given on pp. 63, 68 (Figs. 123, 124). Water with the curled surface and two shells within appears on pp. 66, 94 (Figs. 125a, b). The conventionalized water-vessel is found also (Figs. 125c, d). The complete agreement of the Mayan *muluk* or "water" signs with the Mexican is obvious, and this is still more apparent, when we follow out their chief conventionalizations which lead to the very important water-eye.

In the large, complex script of each of the two or three divisions of a page, which for convenience' sake I shall call hieratic, we find a stabilized "water" sign, as in Codex Tro-Cortesianus (Figs. 125e-i), which precisely corresponds to the Mexican form with rippling surface and a shell or eye in the water. This is made especially clear on p. 82 (Fig. j), where the shell is detached and in the middle of the water, while elsewhere the shell or eye is immediately below the surface, which itself is some distance below the ripples. This surface with the shell or eye has produced the usual, conventionalized *muluk* sign in the manuscripts and inscriptions, which reveals its relation to "water" as soon as we remove the cartouche (Fig. 126, 1-6). But we have an important intermediate form of the sign in the water-eye of all the sky gods, especially of *Čak*. On p. 38 (Fig. 208) of Codex Tro-Cortesianus the head of *Ekčuh*¹ as a sky god appears within the mouth of a beast. Here we have the water-eye, consisting of an uneven water-vessel, with blue water in an uneven line pouring out of it. The same water-eye may be seen in *Ekčuh* on pp. 26, 27 (Figs. 127, 128), and without the blue color on pp.

tesianus resembles most this last p. 55, it follows that the MS. was reversed, as we find it to-day, but it contains one page more. We are thus brought to p. 76 as the last of the former Codex Cortesianus. Continuing now with p. 1, part 1, of Codex Troano, we have only 34 pages of it, as against the 36 of part 2. If we transfer p. 36 of part 2, containing the stray leaf, to part 1, we get 35 for part 1 and 35 for part 2. We still have the stray page in Codex Cortesianus, which obviously must have been originally at the end of Codex Troano, together with the same kind of a stray page. It follows from this that in cutting up the original MS. one or more final pages of the two parts of Codex Troano were lost, one stray leaf becoming attached to Codex Cortesianus, the other to Codex Troano. If we give now to p. 1 of part 1 of Codex Troano the number 77, we get for its last page, 34, the new number 110, leaving for the two stray pages, Cortesianus and Troano, 111 and 112 respectively. I shall follow this numeration.

¹ I shall keep the name of the scorpion for the variant *Ekčuah*, etc.

44, 45 (Figs. 120, 121), where he is also transformed into *Čak* and *Ketsal-kowatl*.¹ This water-eye is the chief characteristic of all the old gods.

Before discussing the relation of "water" to the moon among the Mayas, it is necessary to examine the relation of the iguana, both in Mexico and Yucatan, to "water" and the moon. We have already seen that *Teskatlipoka*, that is, *Itstli*, of the crossroads, is connected with a hare, while in Codex Fejérváry-Mayer there is another animal. It will be shown that generally, though not here, the iguana takes the place of the hare. In Codex Vaticanus No. 3773 (Fig. 129) and Codex Borgia (Fig. 130) a hare issues from the mouth of a snake and is seized by an eagle. The same subject is dealt with in Codex Fejérváry-Mayer (Fig. 131), where an iguana takes the place of a hare. This picture follows that of *Teskatlipoka* and before *Teskatlipoka's* crossroad, so that there can be no doubt of the connection existing between this god and the iguana; hence this, too, must represent the moon. The Mayan *qan* means "abundant, yellow, ripe," and we have *qaankal* "to abound, grow excessively." *Qan* is the name of the glyph which corresponds to Nahuatl *kwetspalin* (Fig. 132), and it can readily be seen that, if we remove the cartouche from the Mayan glyph, we get the conventionalized picture of the iguana, that is, of Nahuatl *kwetspalin*. We have here the Malinke, Bambara *kana* "iguana, to surprise," *kan* "more than usual, to increase." In Arabic popular belief (based on fact) the iguana (monitor) has two members of generation,² it represents lust and prolific productiveness, hence it is natural in America to find the *kwetspalin* generally connected with the organs of generation, and the deer which represents lust is depicted with the *kwetspalin* next to the penis (Fig. 133).

Prolific productiveness, like menstruation, is directly related to the moon, hence the iguana represents the moon. Both the hare and the iguana are the representatives of the moon, even as the water jar is the expression of one of its attributes, that of causing periodic rain. We know that the Mexicans connected the frog with rain in the same way, and numerous representations of frogs have been discovered in this connection.³ We have repeatedly found *Teskatlipoka-Itstli* related with the moon, and among some of the Mayan peoples, the Kiches and Cakchiquels, the moon is called *its*, while in Huasteca it is similarly named *aits*. In Kekchi and Pokonchi we have *po* "month," unquestionably from Nahuatl *poa* "count," as in *metstla poalistli* "month." On the other hand we have Maya *u*, Tzotzil *hu*, Subinha *ugh*, Chol *ug*

¹ I shall use the Mexican names of gods where the Mayan name is unknown or in doubt.

² Jayakar, *op. cit.*, vol. II, pt. I, p. 196.

³ Seler, *Codex Borgia*, vol. I, p. 100.

"month," by the side of Maya *uo*, Huasteca *kwa*, Nahuatl *kweitl* "frog." At least for "frog" we have a form *kwa*, which is identical with Bambara *kwa*, Malinke *koḥo* "to be abundant, ripe, grow," that is, it coincides with certain of the *kana* meanings, while in Dyula we have recorded *koḥo* "iguana," so that we are here once more in the circle of the "iguana" words, which should lead us to "moon." For "moon" we have in the Mande languages Malinke *karu*, Bambara *kalo*, Khasonke *karu*, *kaḥu*, *ḥarhu*, which also mean "river oyster." The Mande "moon, abundant" words go back to a primal form *kwar*, of which we can easily determine the origin, but before doing so we must return to Qazwīnī and give his whole disquisition on the relation of the moon to growth, birth, etc. In the passage referred to before Qazwīnī says:

The Specific Properties of the Moon and Its Miraculous Influences. It is assumed that all its effects are the result of dampness, even as those of the sun take place in consequence of heat, and the careful observation of tried and experienced men offers the proof thereof. In the first place we have the fact which shows itself in connection with all the seas, for when the moon appears on a point of the horizon which is above the sea, its tide increases in height with the corresponding growth of the moon, and this takes place until the moon reaches the middle of the vault of heaven which is above this place. When it is there, the increase of the tide ceases; when the moon descends from the middle of this celestial region, the water begins to ebb and constantly to recede until the moon has reached its west, when the ebb at once stops. When the moon sinks from the western horizon of this region to its disappearance, the flood begins a second time, except that it is weaker than at first, and thus continues until the moon reaches the terrestrial pole. Then the tide ceases for a second time at this place. Now it begins to ebb and constantly to recede until the moon reaches the point in the eastern horizon of this region, and then the tide returns to its former condition. . . .

Then there are the phenomena in the bodies of animals, for these are stronger with the increasing moonlight, and heat, dampness and growth have greater power over them; and the humors in the human body appear at its exterior, and the veins are filled; after the full moon the bodies become weak, the cold exercises greater power over them, the growth becomes smaller, the humors recede to the interior of the body, and the veins lose in fullness. This is a fact in the eyes of the learned in medicine.

Besides, the physicians have come to the conclusion that the conditions of a crisis in sickness and the approach of the days when it takes place are based on the waxing and waning of the moon, and the medical books express this very clearly. It is also asserted that the bodies and bodily powers of those who get ill in the beginning of the month are more powerful to ward off disease, while those of the people who grow ill at the end of the month are weaker.

Then again the hair of animals grows faster and becomes thick so long as the moon increases in light, while as soon as the moon wanes it grows more slowly and does not become so thick. Again, the milk of the animals flows more abundantly at the beginning of the increase of the moon's light up to the full moon, their brain grows, and the white

of the eggs formed in the beginning of the month appears in greater quantity, but as soon as the moon begins to wane, the abundant flow of milk, the increase of the brain, and the quantity of the white of the egg decrease. There are some who assert that these circumstances differ at different times in the day. Thus when the moon is in the eastern quarter above the earth, the milk of the animals flows more freely, their brain increases, and if at that time the eggs are formed in the bodies of the birds the white is more abundant. But when the moon is in the western quarter, all these things happen in a much diminished degree, and when the moon at last is below the earth, this diminution becomes very obvious. It is asserted that these results, obtained by observation, appear very clearly the moment we devote all our zeal to their investigation.

We can trace the Arabic "moon" word in Africa. We have Arabic *qamar* "moon," from *qamira* "he became dazzled, deprived of his sight by the light of the moon, so that he was perplexed and unable to see his right course," *qāmarahu* "he contended with him for stakes or wagers, deceived him," *taq-qamarahu* "he hunted the antelopes in the moonlight, deceived him." In Hassania Arabic we have *qmer* "moon," in several Berber dialects *gmer* "he went on a hunt." Since *qm*, *gm* are unusual combinations in African languages we get a root *kwar*, which appears in Wolof *vere* "moon," *vera* "to cure." In the Mande languages I have already given the series of words which leads to "moon, abundance, iguana, shell," and which in Malinke and Bambara has a standardized form *karo*, *kalo*, but this also means "to deceive, lie," which shows that the whole of the connotation of the Arabic "moon" word was known in the Western Sudan. I have already shown that the Mexican ball-game is based on the African, where the purpose was to obtain rain.¹ It is well known that it was connected with the Moon God, that is, chiefly *Teskatlipoka*, and that the *tlačko* was placed strictly north and south, that is, in *Teskatlipoka*'s directions. The game was played for stakes, the winner stripping the loser, simply because the terms for "moon" and "winning in the game" are identical in Arabic.

Although the lunar month was in Mexico and Yucatan reduced to the vigesimal month, all the attributes of the former passed over to the latter. A month of twenty days in Mayan inscriptions is, as a face sign, represented by a frog-like animal or head (Fig. 134), which is generally preceded in the brow by a turquoise rosette, which means *čalčiwitl* "water" or, as in numbers 8, 16, and 24, has distinctly a water-eye, where the vessel is clearly defined. In number 17 we also see the sign *kawak* above the water-eye, and elsewhere there are variations of the water-eye. In addition to this there is in the upper right-hand corner of most of the figures a circle including three smaller circles, which is the representation of a shell, such as is found in the

¹ See my *Africa*, vol. III, p. 344 ff.

manuscript form for "twenty." Thus we see that "month, twenty" is in the inscriptions expressed by variant signs of "water + frog." In the manuscripts we have, after the abstraction of the cartouche, the water-vessel with its feet and above it a shell (Fig. 135). In the inscriptions all the frog heads have at the inner edge of the mouth a curl. If the frog face were facing us we should have a crooked mouth and two curls, with the *čalčiwitl* appearing as a circle above. This is the form of the normal *winal*. In the representation of the moon as such we have, above all, the water-vessel with a reminiscence of the feet in a series of white circle formations below. Within the vessel there may be one or more shells or a hare.

In the representation of the "moon" and "twenty" by various water devices, the Mayans, like the Mexicans before them, proceeded from the chief property of the moon to affect the water, cause rain, etc. No such argument can be used to explain why all the glyphs used to express "zero, nothing" should be identical with "water." It is generally asserted that the Mayas invented the "zero" sign in order to make it possible to express numbers in a descending series by position only. "Zero" is one of the great achievements in Arabic mathematics which has revolutionized European mathematics, and to ascribe such high intelligence to the Mayas is to assume entirely too much. It can be shown that the "zero" concept was by the Mayas received from Mexico, hence, if such discovery was made in America, the honor belongs to the Mexicans, but even that is extremely doubtful. Since hieroglyphic inscriptions have been found in Mixteca territory and especially at Xochicalco, it is highly probable that the Maya inscriptional writing goes farther back. In any case the sign for "zero" can have arisen only in Nahuatl, where *atle* "nothing, zero" would naturally be expressed by the glyph *atl*. Such is really the case in Maya, where no native explanation can be found.

In the Mayan codices "zero" is invariably expressed by a shell (Figs. 136 1-15), which we have often enough found as the chief characteristic of Nahuatl *atl*. In the inscriptions probably the commonest sign is a hand with a circular wrist across the face of an old god, as indicated by the water-eye, though this god is sometimes identified with "Death," that is, "destruction" (Figs. 137 1-14). This hand with the circular wrist is identical with the Mexican digitate water extending from a circular wrist, a transformation of the water-vessel (Figs. 12 h-1). Next in frequency is the whole or part of the Tableau which in Mexico we have found so often the representation of "rain" and the "moon." This "zero" sign has generally one to three shells in the middle, that is, "water," or the sign for "death," since the God of Death frequently occupies the center of the Tableau (Figs. 138a, b).

In the "hieratic" writing of Codex Tro-Cortesianus the old gods are represented with a water-eye. On p. 110 we have in  most likely Čak, while above it, in , where the old god is connected with *aqbal* "night" and apparently the vaulted sky, a very common symbol is this hieratic writing, we have some form of the Moon God. But both in the "hieratic" and "demotic" writings the day *kawak*, corresponding to Mexican *kiawitl*, has a bunch of rain-drops in place of the water-eye (Figs. 139 1-15).

In the four consecutive months *čen*, *yaš*, *sak*, *keh* of the Mayan calendar the lower part of the composite glyph contains *kawak* with the water-bunch, and an investigation into the origin of this set leads to most startling results. It is clear that originally, before the twenty-day calendar was inaugurated, these four glyphs must have referred to the rainy season, which, as in Africa, is from July to September. Among the Bambaras the last of the three months of the rainy season, corresponding to September, is called *minkalo* or *sali-kalo*, the latter literally meaning "the month of prayer or celebration," from *sali* "Mohammedan prayer," from Arabic *ṣalāt* "prayer." Among the Malinkas *salikaru* refers to the ninth month, that is, August. As the ninth and tenth Arabic months, *Ramādān* and *Šawwāl*, coincide with the hottest part of the year, there can be no doubt that Bambara *minkalo* is derived from *mina* "thirst," which was, however, confused with *mina* "antelope," no doubt, because, according to Qazwīnī, *šawwāl* was derived from *šāla* "tail," because in this month the camels when conceiving raise their tails.

In Mexico, as in the Western Sudan, this period coincides with the rainy season, wherefore the transference of originally Mohammedan celebrations and beliefs to America created a disturbance, since that part which referred to the influence of the dry season had to be transferred to the beginning of the Christian year. There can be no doubt that the four *kawak* months, originally of lunar length, were at first an expression of the time in which the Mohammedan *Šawwāl* fell. This appears from the last month, called in Maya *keh* (Figs. 140 1-11). It will be observed that the upper part of the glyph is a longish, elliptical object. *Keh* means "deer," which the glyph certainly is not. We get at once the explanation when we refer to the native Mexican plum called *masašočotl*, that is, *masašokotl*, "deer fruit," which Hernandez¹ gives as that very object connected with the month of *keh* (Fig. 141). That we have here the precise relation between "deer" and "plum" follows from the Huasteca *tel*, *ten* "plum" and *tenekbič'in* "deer,"

¹ F. Hernandez, *Nova plantarum, animalium et mineralium mexicanorum historia*, Romae, 1651, p. 384.

literally "plum beast." In Mexico the month *minkalo* was also understood as *mankalo* "hippopotamus moon," as we shall soon see, hence, since the large foreign animals, like the horse, were by the Mexicans called *masatl*, the month was understood to be "the month of the deer." Here an awkward situation arose. The deer was through the Mande clearly related to the plum, but the plum ripened in the dry season and not in September. Hence from *ha* "water" was formed Maya *yaabil* and fuller *manhaabil* "the rain which falls during the ripening of the plums and makes them good." On the other hand the deer was, through the Arabic *šawwāl*, related to the dry season and rutting, hence he had to be related to drouth and the sun's heat, as which he appears in Mexico. In Codex Tro-Cortesianus we find him from p. 28 (Figs. 208, 209) on tied to the branch of a tree, because he is related to the plum, connected with the scorpion, because he is the burning drouth (Fig. 210), his tail is invariably erect, and on p. 35 his veretrum is erect.

To explain the origin of this correlation we must first discuss in detail the origin of the word *Mali*, *Mani* for the Sudanic people and their connection with *mali*, *mani* "hippopotamus" as their *tana*.

M. Delafosse¹ has successfully shown that the Kingdom of *Gāna* has its origin in a title of sovereignty and not in the name of a place, and that this title was later changed to *magha* or *maghan* "master." Delafosse is of the opinion that "the founders of this state were of white, and probably, Semitic, origin, but that, in taking wives among their subjects of the black race, they gave rise to more or less mixed descendants who ultimately constituted the Sarakolle (Soninke) family, whose present representatives still bear the name of Sisse, reputed more noble than the rest."² Unfortunately Delafosse has failed to give the etymological history of *magha*, which tells an interesting story. Among the Shilha Berbers Arabic *maulai* "my lord" has given rise to *mūl*, *mūla* "my lord," as an address to princely and holy personages, while *maula* is applied to God. The same is true among other Berbers. In Arabic compounds we get Shilha *mūl-elhagg* "advocate, lawyer," *mūl-lahrās* "key with steel rings," etc. For "my lady" we have similarly *mūlati*. Curiously this root has been in Berber languages appropriated by the plural. Thus we have Kabyl *bab* "master, possessor," in the plural *imaulan*. This has in a number of dialects been abbreviated to *man* as in Djebel Nefusa, Mzab, Shawiah, Wars *iman* "soul, person," generally used as a reflexive pronoun, Zenaga *man*, *uman* "people." As the original meaning is "great person," we

¹ *Le Gāna et le Mali et l'emplacement de leurs capitales*, in *Bulletin du Comité d'études historiques et scientifiques de l'Afrique Occidentale Française*, vol. IX (1924), p. 429 ff.

² *Ibid.*, p. 494.

also have Botiua *mun* "to assemble," Mzab *mennaut* "much," whereas in Kabyl we find *melil* "to assemble," *itemlil*, *amelil* "company, conjuncture," *semlil* "to assemble, convene, unite," which prove the common origin of the roots *ml*, *mn*.

In Hausa we have the "lord" word as *baba* "great, as used of persons of high rank," of which the plural is *mainya*, *maiya*; but we also have *maina* "prince, used only of the son of a King," *mainema* "rich man." The abbreviated *mai-* is used, like Arabic *Shelha mûl-*, to form names of agency from verbs, substantives, and adjectives, hence *maigona* "the owner of the form," *maigirima* "one who is great," and this *mai-* is further reduced to *ma-*, as in *masaki* "weaver," but here there may be an older Hamitic prefix, corresponding to Arabic *ma*. In Peul we have both *malādo* "a great, distinguished person, master, prince," and *mauni*, *mauna* "to become great, distinguished," hence *mauni* "elder brother," *mau* "great," *maudo* "distinguished person," *mauba* "elephant," *maundu* "lion," that is, "the great beasts," *maṅga* "the great man, master," *maṅgu* "greatness, honor, praise." The latter at once shows that Kabyl *mun* "boasting" is equally derived from the "lord" meaning. We also have Peul *modi* "nobleman, master, marabut," and, like Hausa *mai-*, we have *mo-* "he who," used as a prefix for words expressing agency, as in *moputyu* "rider," *mosidabaru* "wizard." In Songay we have *male* "chief artisan."

Wolof *magaye* "greatness," *maque* "great, old," *magua* "to grow, to become larger," from Arabic *muqaddam* "majordomo,"¹ show that the corresponding "man" words in the Mande languages, like the Wolof "great" words, have become confused with the "lord" words ultimately from Arabic *mûl*. In the Khasonke dictionary are recorded *ma*, *morho*, *moho*, *mogho*, *moko*, *mogo* "man," but also "Musulman, marabut," which like Peul *modi* "nobleman, master, marabut," are derived from the Arabic "majordomo" and "lord" words. This becomes still clearer when we consider Khasonke *maḥama* "elephant," that is, "the great beast," but we also have the great beasts *mali*, *mani* "hippopotamus," *ma* "sea-cow." In the Bambara dictionary we find *ma* "man, person, subject." That the fuller form was *mani* follows from *manifn* "Negro, man in general," literally "black man," but *mani* as such is recorded for "hippopotamus," for which we also have *mali*. That in either case the reference is to a large animal is proved not only by *ma* "sea-cow," for which we also have *mani* as in *maniwolo* "manatee skin," but also by *man-kala* "doe," *mankalani* "red-haired." Bambara *mori* "marabut" is unquestionably borrowed from Peul *modi*, and *mugan* "twenty," that is, "whole

¹ See p. 44.

man," shows that a form *mu*an, *magan* or *maun* or *maulan*, as in Berber, preceded it. From Malinke we get the additional forms *mā* "sea-cow," *makarā* "red-haired antelope," *moḥo* "man," *muḥā* "twenty," while *marigi* "lord, chief" arose from *mantigi*. *Ma*, *mā* was in the Mande languages applied to what was good for man, as in the plants *mad'e*, "the fruit of the carica papaya," literally "good, or man's, melon," *mādiḡa* "good peanut," *madi*, *mādi*, *mandi* "beloved."

From the above correlation it follows that Delafosse is quite correct in his assumption that the ruling class of "lords" derived from a Semitic source, and furthermore it is clear that these Semites were Arabs who penetrated the Sudan after the conquest of the Berber countries at the end of the seventh century. He is furthermore correct in his assumption of an aristocratic mulatto class. As all the early references to mulattoes in Europe are to the effect that the mixed races were so called by the Spaniards, there can be little doubt that the name was derived by the Portuguese and Spaniards from Berber *mūlāti* "Negress of the superior class," that is, a "mulatto." The more important inferences are that the hippopotamus *mani*, *mali* was not a totem, which Delafosse denies to the Mandingos, but a race distinction, a coat-of-arms, so applied to *mani* "Negro, man," because it exemplified their greatness, and, as time progressed, they were unable to dissociate themselves from a relation to the large beast, even as the Bambaras similarly came to connect themselves with *bamba* "the crocodile." In America the Negroes, no doubt, associated the plum with *ma*, *man* "good for man," but this became naturally confused with *mani* "large beast," hence "deer," and so the relation of the two was created.

The deer is already found in this "plum" connection in the Mexican codices. In Codex Borbonicus and the *Tonalamatl* of the Aubin Collection we have the representation of *Teksistekatl* and *Teskatlipoka* as the Lords of sixth *tonalamatl* division (Figs. 143, 144). In both the *teksistli* in front of *Teksistekatl* indicates the mother-of-pearl origin of the Moon God. On the hill below the picture of the gods we have in the *Tonalamatl* a deer attached to a tree, while in Codex Borbonicus the rapacious beast, as indicated by the claws, is concretized with a deer, as indicated by the horns topped apparently by a bloody stream. We also have here the same rapacious beast behind the head of a *sipatli*, as connected with the second Lord of the Day in the same Codex. Both are tied to a tree or stick, to render the sense "plum-beast," which, as in Codex Tro-Cortesianus, was left indefinite and complex. In Maya this animal was confused with a monster which bears resemblance to the crocodile and the armadillo, and on pp. 4 and 5 of Codex Dresden we

find this beast with conventionalized crocodile head, but body of the scaly armadillo (Fig. 142) and the face of a Negro in the mouth, so that here we have the representation of the Mani-Negro, that is, a Malinke, who is the eponymous god of the Mexicans and Mayas.

We have a series of words in Huasteca, Maya, and Nahuatl which illustrate the importance of the deer fruit in popular thought. Huasteca *pol*, *balibitelal*, *boltē* are translated by "instrumento de teger," which gives us no idea of what kind of a weaver's instrument they represent. The last, *boltē*, is clearly composed of *tē* "tree," and thus only the first part *bol*, *pol*, *bal* must be defined. Huasteca *bolčal* "corner," *boli* "to turn around," *pala* "to hang," *palab* "cradle," *palal* "to rock," *boli* "twisted," *polka* "to loosen the bow," *pololol* "flabby," *pulič*, *pullab* "bow," all of which belong here, show that we have something to do with "rope," which would connect the whole series. We also have *bial* "venerable," *bialtuhub* "idol," literally "venerable stone," and *bialteem* "plum," where the term "venerable" indicates that we have to do with a religious term, as already shown by the treatment of the deer fruit. We also have *pullik* "great," as in *pullikbel* "highway," *pullikahib* "great feast."

In Maya we get for Huasteca *boltē* the corresponding *balče* "rope with which the weavers attach the cloth," so that an underlying *bal* "rope" or "attach" would be expected. But we also have *balče* "animal, beast," where the word was transferred to the deer tied to the tree, which stands here for "beast" in general, and here we also have *balqaš*, where *qaš* means "to tie, shackles, brush, wood, forest," and the compound *qašth'an*, where *th'an* means "wood," has the significance "marvelous, miraculous," which again shows the religious importance of the "tied animal," and in *balče* "tree, with the dry bark of which the Indians ferment their honey water and thus produce the liquor called pitarrilla, from which they become intoxicated," we once more get a reference to the religious significance of the word as referred to a particular tree. For *bal* we have "brother-in-law," and, as a verb, "to twist threads," and, as a suffix of a numeral, it is used to count skeins of thread. From "to twist thread" we get *balah* "to hide behind something," *balaq* "a thing which makes a circle," *balaquntah* "to stumble," *balkah* "the world, people around us," *balinah* "to contain a thing," while, related to *bal* "brother-in-law," we have *balintah* "to become a brother-in-law," *balna* "family." Corresponding to Maya *qašth'an* "marvelous," we have *balth'an* "what business?" *baal* "thing," *baala kah* "look out! what are you doing?"

In Nahuatl *-pol*, *-pul* means "great," but generally in a bad sense, as in *ičtekapol* "great thief," *tlatla koanipol* "great sinner," *wewepol* "very old."

We also have *wepolli* "brother-in-law," composed of *wey* "great" and the suffix *pol*, where the underlying meaning is clearly "closely attached." In *tepulli* "penis," we have apparently a pejorative of *tetl* "stone." The root *pol* in Nahuatl *poloa*, when attached to a verb, has always a meaning of contempt, as in *nitla kwapoloa* "I, miserable fellow, eat," hence it means as a verb "to destroy, submit, conquer, spend one's money, lose reason," *poliwi* "to perish, be absent, hide," *poloni* "to stutter, speak badly," *polaki* "to drown." In Maya we have not only *bol* "to go in a circle, conquer," which is already contained in *balaq* "a thing which makes a circle," but also *bul*, which, like Nahuatl *polaki*, means "to drown." But we also have the connotations "to play a game of chance, lose, win," which are again related to Nahuatl *poloa* "to conquer, spend one's money"; hence the Mayan terms *bol*, *bul* are borrowed from the fuller Nahuatl meanings. The Nahuatl dictionaries do not record the weaver's implement, but we have a large number of related words with the root *pil*, as in *piloa* "to hang, fall from above, attach oneself, persevere," *tepiloani* "one who hangs another," *tepilolli* "cord, thread," *tepillolkwarwitl* "gallows."

We can now show that this whole group of words arose from the Mande root *bar*, *bal*, which are of composite origin, but coincide with the American words in the connotations. We have Malinke *ba* "mother," hence *barin* "uncle, aunt," while Bambara records *balima* "collateral relation," *bali-maya* "relationship, consanguinity," *biran* "relative by alliance," *biranke* "father-in-law, mother-in-law," and Khasonke has *badin* "relative," *barin* "uncle, aunt." These account for Maya *balna* "family," *bal* "brother-in-law." But we also have *ba* "great," for which we have Bambara, Malinke *belebele*, *buñ*, which leads to the American "great" words. Then we have the same form *ba* in Malinke *bala* "porcupine, pincers, to attach," Bambara *balan* "to pin, hold back, straddle," Soninke *barabara* "lock," which give us all the American words connected with the tying of the animal and the weaver's implement. Fortunately the Vai dictionary gives us the precise information as to this implement, namely, *bā* "the tripod on which the weaving apparatus is suspended," which not only gives us all the "hang" words, but also shows us how we get from it "cradle." It so happens that in the Mande languages this time Soso gives us the best survey of the American *bal*, *bul* words. We have Soso *bala* "to follow one from love," *balan* "to lock firmly," *bale* "a tame animal which follows its master everywhere," *barin* "parent, relative, family," while for "to hang, pin" we have *baku*.

To explain Nahuatl *piloa* "to hang," where the Mayan languages have *bal*, *bol*, we must observe that in Malinke we have *bila* by the side of *bala*,

and this form is also found in Peul *bila* "to lock, hang," Malinke *biri* "to surround, cover up," while Hausa has *kubli* "to lock," which shows us that we have in all these Arabic *qafal*, found in Hassania *qafal* "chain," *gfel* "lock," *megfal* "hook," *magefla* "button," Kabyl *qefel* "to lock, button, lace, be constipated, without intelligence," *qafla, gafla* "caravan." For the "great, relationship" words we have Peul *bāba* "father," *badi* "elder brother, uncle, nephew, relative," while Hausa has *baba, babba* "great, important, notable, father, uncle, superior, chief," where two distinct Arabic roots have coalesced, for we have Songay *baba* "father (uncle, cousin)" and *ber, iber* "great, important, dear," the first from Arabic *bābā* "father," the second from Hassania Arabic *kbīr* "great," *kebber* "to become large," which has passed into Peul as *-bal* "large in body," always used as a suffix, just as in Nahuatl, to represent something bulky.

In the first *kawak* month we have above *kawak* a sign which in the manuscript looks like an empty vessel, and in the inscriptions resembles the sign for "zero" (Fig. 154a). Indeed, the name of the month *čen* means in Maya "alone, nothing," and we have *čen* "well," *č'enah* "to be silent, sad, motionless." In Bambara the ninth month, corresponding to Arabic *Ramaḍān*, is called *sunkalo*, and the eighth is *sunkalo makono* "the fasting month" and "before the fasting month," respectively. *Sun* is from Arabic *ṣaum* "the month of *Ramaḍān*," from *ṣāma* "he abstained, fasted, became silent or motionless," consequently Maya *čen, č'en* are of the same origin. We have also Nahuatl *sawa* "to fast," Maya *suqin*, unquestionably from *su + qin*, that is, "fast day," hence "fast, to fast." Between these two Arabic names the Mayas, having reduced their months to twenty days, inserted a "green" and a "white" *kawak*.

Bambara *mani* "hippopotamus" was in Mexico used for the glyph of the seventh day, with the Nahuatl name *masatl*, and is invariably a deer or, rather, deer head. The Mayas called this day *maniq*, but did not know what to make of it. They did not identify the hippopotamus with the deer, and *mani* in Maya meant "nothing," so they represented it, both in manuscripts and inscriptions, by the bent hand with the circular wrist (Fig. 145b), that is, by the sign "nothing." Seler¹ points out the fact that the first gods appeared in the form of a deer, and that the founder of Tollan was called *Miškoamasatsin* "the Cloud-snake Deer." This can only be a translation of some name in which there was a reference to the Negro origin of the ruling house, since the Bambaras called themselves *Manifin* "the hippopotamus men." The hippopotamus was their *tana*, sacred animal, and was tantamount

¹ *Codex Borgia*, vol. II, p. 164.

to divine origin, for *mani* also means "idol, statue, fetish." This is distinctly the purpose of the picture in Codex Tro-Cortesianus, where on p. 38 (Fig. 208) the thick-lipped black god, that is, *Ekčuh*, looks out of the jaws of the deer. Now at last we can see that the picture in Codex Borgia (Fig. 133) does not represent *Šočipilli* as the God of Lust, but merely the Deer as the sum total of religion and knowledge as received from the Negroes. This is again conventionalized in Codex Vaticanus No. 3773 (Fig. 146), where the deer is changed into a fantastic man, and only the tail is left to show the connection with *masatl*, that is, Bambara *mani*. It is interesting to observe that in Zapotec, where *m* is an exceedingly rare letter, and no other words begin with it, *mani* means "animal" and is attached to words expressive of activities connected with an animal. Here we have a direct proof that *mani* was a borrowed word.

In the Mayan manuscripts the sky is expressed by the various signs which are connected with it, "death," "night," "*kaban*," "the star Venus," and the face of a god, which must be that of the moon, since in other places we have the representations of "twenty," which, as we have seen, is the reduction from the original lunar month (Figs. 121, 122, 124). On p. 1 (Fig. 147) of Codex Dresden the fire-beast descends from the sky on which we have the sign for "twenty," that is "the moon," and another sign which is that of Mexican *ilwikatl* "day," a curious transformation of the usual round sign with four circles, which itself is the reduction of "sun" (Fig. 148), since in Maya "day" and "sun" are identical. The fire-beast is a conventionalized deer, as appears from its hoofs, hence expresses drouth. On p. 2 we have three pictures of the fire-beast similarly descending from the usual conventionalized skies (Fig. 149), while at the bottom of the same page the Rain God sits victoriously over the prostrate deer, that is, the drouth has been overcome (Fig. 150). Other descents are depicted on p. 40 (Fig. 151a) and elsewhere (Figs. 151b-f), but the most interesting is on the last page, already referred to.

IX.

The Black God.

IN my *Africa and the Discovery of America*¹ I have discussed the African *Nama* worship. I quote from it as much as I need for my further discussion. The *Nama* in Africa protects the people against the *suba*, or *subaga*, the were-wolf, the hyena,² and there is a male and a female *Nama*, and sacrifices are made twice a year to them. The resemblance of the *Nama* worship and that of the *Koyotlinawatl* is striking. Even the word is preserved, for *nawalli* and *naba*, *nama* are identical.

The resemblance does not rest here. Let us look at the celebration of the *Nama* among the Bambaras:

The two heads of the male and female *Nama* seem to represent two fantastic birds, and when they are preceded by the *darotigi*, who shakes the rattle and carries a burning fagot, and the *dyenfa mussu*, who run through the village and around the walls in search of the *siri*, the illusion is complete. It is still more so when they put them on their brows and mix with the dancers, who shake their bodies, which are naked as far as the waist, and howl at the sound of drums and fifes their sacred songs: "He is our host, the *nyā*, great killer of men, he is our host. It has blossomed in order to bear its fruits, this *boli* has blossomed, it has its fruit. *Suba*, *yo*, this was done for shame's sake. If one has been addicted to the practice of the *suba*, we have a means of getting away from it." The sacrifice of the *Nama* is not less imposing. In the enclosure where is the beehive that serves as a tabernacle, only the members of the staff enter. The mass of the brethren stay outside and nobody approaches the palisade except when his turn has come to present to the sacrificer the chicken and the kola nuts of the sacrifice. While the idol is being smeared with blood, two men, naked to the waist and facing the crowd, stand motionless on either side of the sacrificer, holding in their hands two sticks a meter in length, upon which three sheep-horns and two other horns are tied. It is an honor to be allowed to hold these horned sticks, it is even a dignity, and these people are called the *dyenfa tyeu*. . . . During these nights the women stay inside the village, and the streets that abut against the place where they meet are cut off with *kara* or rough mats. They hear from time to time near them the loud sounds of trumpets and horns, and they see over the mats the outline of a hideous mask which they cannot distinguish and even are unable to say to have seen. When the *Nama* comes out, the women are called at day-break, just as the god is put back in the beehive, and they, at the foot of the tree where our devotees have been howling and dancing all night, are shown the *siri* found by the *dyenfa tyeu* and the *darotigi* or *darotala*. While these *siri* are burned, the women dance and sing praises to the idol. Our *boli* have two days of rest during the week, Monday and Thursday.³

¹ Vol. III, p. 249 ff.

² J. Henry, *Les Bambara*, Münster, 1910, p. 40.

³ *Ibid.*, p. 149 ff.

I have already shown the relation of the *Nama* worship to the Islamic practices. It can now be shown that here we have, indeed, the *aman* "the faith," for the singing of the prayer at day-break, to keep off the *suba*, is, of course, the Arabic prayer at day-break, the *ṣubḥ*. The *Nama* is connected with the Arabic seven-day week, two of which are used as rest days, that is, unlucky days. The *Namatigi*, the priest of the *Nama*, that is, here the *naba* "the prophet," is among the Malinkes and Bamberas also called *fura tīgība* "the great master of medicine," *fura* meaning originally "leaf of a tree," hence "medicine which comes from the trees." This is brought out in the prayer where the *boli* has blossomed its fruit, with which the *suba* "the hyena, were-wolf" can be warded off. As the *boli* of the *Nama* is the chief medicine, he is connected with the bees, and so resides in a beehive. This is based on the Quran, XVI, 70, 71: "Thy Lord spake by inspiration unto the bee, saying, Provide thee houses in the mountains and in the trees, and of those materials wherewith men build hives for thee: then eat of every kind of fruit, and walk in the beaten paths of thy Lord. There proceedeth from their bellies a liquor of various color, wherein is a medicine for men. Verily herein is a sign unto people who consider." To this Sale says: "The same being not only good food, but a useful remedy in several distempers, particularly those occasioned by phlegm. There is a story that a man came once to Mohammad, and told him that his brother was afflicted with a violent pain in his belly: upon which the Prophet bade him give him some honey. The fellow took his advice; but soon after coming again, told him that the medicine had done his brother no manner of service: Mohammad answered, 'Go and give him more honey, for God speaks truth, and thy brother's belly lies.' And the dose being repeated, the man, by God's mercy was immediately cured."

In Mexico and Yucatan we can follow the evolution of the African Bee God step by step. Among the Huastecas we have *tsobna* "to understand," *tsobnal* "to do magic, pander," *tsobnaš* "wizard," *tsobiš* "to imitate," *tsobesa* "to prick, punch," *tsubi* "a stake," *tsubis* "anything sharp," *čabčam* "honey." We have here two distinct Mande words for their origin. Bambara *suba* "were-wolf," hence *subaya* "magic, sorcery," Malinke *subaḥa* "were-wolf, sorcerer who does his evil work at night" explain the first three Huasteca words. The "pointed" words originate in a Coptic root, which has had enormous development in Europe and America. Coptic *serbeni* "thorn," *suri* "thorn, goad," from Egyptian *serb* "thorn," have entered the Berber and African languages, most likely through Arabic *šabr* "spur," found only in Africa, but we have Kabyl *ašbur*, *ašbor*, Tamazir't *eššabir*, Mosi *sābre*, *sāba*,

saba, Peul *soberere*, Khasonke *sobore*, *sebere*, *sebre*, *sarbu*, Malinke *sebre*, *sebere*, Bambara *sebele*, *sebere* "spur," while in Europe the Berber word produced the Romance and Germanic "spur" words. Another Arabic word, *šauk* "thorn," *šaukah* "spur," has led to Khasonke *soko*, *soho*, *sogo*, *sorho* "to prick, pierce," Malinke *soho*, *sō* "to prick, pierce," while in Bambara *sogo* has been reduced to *sua*, and the two "prick" roots have become hopelessly confused, even as Arabic *ṣubḥ* "morning" has fallen in with this group, and, while we have Peul *subaka*, we have Malinke *soho*, Bambara *sogoma*. At the same time Malinke, Bambara *sogo* "venison," no doubt from *sogo* "to pierce," is recorded in Malinke both as *sugu* and *subu*. Thus we find in Mande the "prick" and "wizard" words confused just as in Huasteca.

The Mexicans borrowed the Huasteca or, directly, the Mande "prick" root and produced Nahuatl *tsapinia*, *tsopinia*, *čopinia* "to prick, excite," *tsoponia* "to push, prick," *tsaptli* "point, thorn," *tsapinilokayotl* "spur," hence *tsopa*, *tsupa* "to push, come to an end," and, as in Huasteca one passes to "bee" from "to sting," so we get here *tsopelia* "to become sweet." At the same time we have *tsopilotl* "the buzzard," which Hernandez¹ describes as resembling the *koskakwauhtli*. This *tsopilotl* may be a native name, but we shall soon see how through the *koskakwauhtli* it became closely connected with "prick, honey." In the Mayan languages we have generally *čab* "honey," but in a few and Maya *kab*, which has also various other meanings. We can determine why *čab* has here passed into *kab* by first discussing the sixteenth-day glyph in Nahuatl and in Maya.

The sixteenth-day glyph in Nahuatl is *koskakwauhtli*, literally "bead eagle," but in reality it must have been originally *tsopilotl* "vulture," because we have the sixteenth-day god *itspapalotl*, literally "obsidian butterfly," and this *itspapalotl* is merely popular etymology for *tsopilotl*, which is in Mayan manuscripts related to "honey," even as in Mexico we have the wine vessel connected with *koskakwauhtli*.

In one of the series of the twenty days in Codex Borgia (Fig. 152) we have the sign *koskakwauhtli*, which belongs to the day, and a large foaming *oktekomatl*, or wine jar, pierced by an arrow, back of which sits a hare. This is one of the most telling pictures that has come under my observation. The arrow stands for "to prick, shoot," that is, for the Nahuatl root *tsop*, and we also have in the Mayan languages Pokonchi, Uspanteca *č'ab* "arrow." The wine jar contains sweetness, again of the root *tsop* "sweet," while the vulture *koskakwauhtli* stands for an older *tsopilotl*, again from the root *tsop*. In many of the representations in Mayan manuscripts the wine jar is covered

¹ *Op. cit.*, pp. 331, 319.

with the sign *qan*, that is, with *kwetspalin*, and often the lizard is actually represented. This stands for "plenty," because, as I have shown, the lizard is supposed to have two organs of generation, hence represents fruitfulness, abundance. But Ad-Damiri says¹ that the hare is an unusually lecherous animal, even more than the lizard, hence the hare with the wine expresses plenty. For that reason the hare is represented with *Mayavel*, the Agave Goddess, who presided over the eighth day (Fig. 153), and, as the hare is also related to the moon, we have in Codex Magliabecchiano the representation of the moon vessel on a wine jar (Fig. 154).

Itspapalotl, the obsidian butterfly, is never represented as a butterfly, but as an eagle or vulture with a fantastic head and bristling all over with *itskli* "obsidian knife," to express the idea of "pricking," which either through "bee" or through the pricking of the maguey leads to "wine." Here again the Huasteca words are most instructive. By the side of the *its* words already discussed we have *itsik* "claw," *itsi* "maguey, from which wine is made," *tsika* "to sting (as a bee or nettle)," *tsik* "sweet," *tsikaš* "he who pricks with a sting," *tsim* "pulque, maguey," *tsiman* "to sweeten," *tsim* "maguey honey," *tsihim* "mead." It would seem that here we have certainly a native word, since in the Mayan languages *či*, in Nahuatl *tsi*, forms the basis of a large number of "eat, bite" words. But *tsi*, *ki* are the important African "eat, bite" words, and as both *tsi* and *ki* in America lead to "pulque, sweet," and we have in Maya manuscripts, as we shall soon see, definite references to the introduction by Negroes of wine by suction from the pulque plant, there is no alternative left for the present but to consider this whole group as introduced with the Negro religion. In Africa we have Hausa *či* "to eat, devour," *čidzi*, *čizo* "to bite," and universally in Berber territory as some form of *eč*, *ič*, but also Zenaga *eči* "food," *mekč* "to eat entirely," Mzab *iš*, *eš* "to eat," etc. The root is also found far to the east in Bedauya *ēš* "food, provision," where Reinisch has pointed out that it is the Quranic *aiš* "food, provision." This has entered into the Mande languages as *ki*, *kin* "to bite," and here it was related to "honey," for we have Vai *kinya*, Soso *kwei* "sweet." Thus we see that the American "bite, honey" word is of African origin, and that Maya *ki* "maguey, honey, wine," Pokonchi, Kekchi *ki* "sweet," are like the *či*, *tsi* words referring to the same connotations of religious origin, through the imported method of wine manufacture. Although Maya has *či* "mouth," *čiah* "to bite, prick," it uses the Mande *ki* for "maguey, wine," hence *kib* "wax, equal, candle," but *kibesah* "to become intoxicated with wine." Zoque *uki*, *huki* "to become intoxicated" shows that

¹ *Op. cit.*, vol. I, p. 42.

a lengthened form *oki* was in existence, and from this was formed Nahuatl *oktli* and, with a *ne-* prefix, *nektli* "honey," *nektik* "sweet."

The Mexican sixteenth-day glyph is *koskakwauhtli*, but should have been *tsopilotl*, while in the Mayan codices is the animal form of the Negro who brought the manufacture of wine to America and became the Bee God. We shall now follow out the story of wine as contained in the Codex Tro-Cortesianus. Beginning with p. 77 we have the constantly descending bee connected with the sign *kaban*, which is sometimes over a sign resembling *kawak* and has been identified as a beehive. The relation of "bee, honey, beehive," that is, *kab*, to *kaban* is, no doubt, purely formal and etymological, though of very important consequences and deeper significance. We have Bambara *kaba worawora* "the cloud is in commotion," that is, "there is a downpour of rain."¹ *Kaba* "cloud" is from Arabic *ḥabā*, *ḥabān*, but this root also means "to come down low, creep along the ground." In Dyula, which is closely related to Bambara, we have *woroworo* "honey bee," so that already in the Mande languages there was a confusion between "bee" and "heavy rain." In Mexican *worawora* led to the *ol* "shake" words, while for Nahuatl *olin* the Mayas formed from Bambara *kaba* their *kaban*. This root is hardly represented in the other Mayan languages, but in Maya *kab* means "to descend, low," and also "to be in commotion, boil," where we have the Arabic *ḥabā* and the *olin* meanings confused. Thus we get Maya *kab* "that which ferments, juice, poison, honey," and the term *kab* "earth," not only because it is low, but because it trembles. The latter is made clear from Kiche *kabraqan*, Uspanteca *kabaraqan*, Ixil *kablano* "earthquake," which seem to have been formed by analogy with *hurakan* "violent rainstorm." Thus we get the connotational relations "bee, to descend, violent rainstorm," which is expressed pictorially in the descent of the bee with the sign *kaban*.

On p. 80 (Fig. 155a) we have a series of important pictures, but unfortunately the upper two are blurred. Yet it can be seen that in the upper left picture we have the representation of the Black God to judge by his long nose and accentuated large lips, but here represented as a yellow bee god, descending over the fire and a wine jar. In the middle picture the Black God is represented as an old god with one hand on the conventionalized *tsopilotl* in "hieratic" writing, where, side by side with it, we actually find the head of the bald-headed vulture or turkey, with a beehive design on his head (Fig. 155b). That the object touched by this old god is really Maya *kib* may be seen on the previous page, where we have the same old god with his hands over the fire, while among the five days given to the left we have

¹ See p. 59.

the sign *kib* and near by the "hieratic" form of the vulture-Negro with the *kib* signs in his fillet (Fig. 156). At the bottom of p. 80 we actually have the Negro (Fig. 157), not yet as a black god, with the *kib* sign on his breast, here resembling the *kaban* sign, a bird on his head, and a beehive in his hand, with a bee descending upon it. To the left of him is the same picture, but here the Negro is turned into the old god.

On p. 81 (Fig. 158) the Bee God as *Ketsalkowatl* is blowing on the fire. The long nose still relates him to the Black God, the yellow color shows his connection with the bee, while his horn-like excrescence on the head is the same as generally given with the picture of the vulture in Mayan pictures. On the next page we have in the hieratic writing a yellow figure of "plenty" topped by a turkey head, the sign of the *Čak* god, and another of a lizard or "plenty," which is pictorially brought out still better on pp. 84 and 85 (Figs. 159, 160). The story is continued in a different correlation. On p. 93 (Fig. 161) the Negro is presenting some sacrifice to the *tsopilotl*-Negro arising from a plant, which itself is standing on two *Čaks*. Below this we have three wine jars marked with the sign of "plenty" and topped with the *tsopilotl*-Negro. On the next page (Fig. 162) the Negro as a traveling merchant, with a fan in one hand, is doing homage over a wine jar to some divinity. From these scattered incidents, for we do not have the necessary interpretation, it follows that a Negro traveling merchant was in some way connected with the introduction of the Bee God and the use of wine fermented from some sweet object over a fire.

At the same time the investigation of the story of the Bee God makes it possible for us to explain how the sixteenth-day glyph has arisen in Mayan writing. We see that the *tsopilotl*-Negro led to the inscriptional form of *kib*, where we have a mixed profile-fullface picture, the Negro fillet of one and the thick lips of the other. Since *tsopilotl* is by connotation connected with "sharp" and "sweet," and *kib* led to *kab*, which was correlated to *kaban*, the reduced *kaban* sign within the Negro fillet took in the manuscript form the place of the heavy lips (Figs. 163a, 1-9, b, 1-4). This *tsopilotl*-Negro has been identified with *šamanek* and the northern star, but I have already shown that *šaman* is related to *Itsamna*, and the whole means "the God of the Blacks."

We get a more succinct but far more satisfactory story in Codex Dresden on pp. 25-28, which deal with the celebration of the new year. In the center of p. 25 a *Čak* priest is seated before an altar with fire upon it, in front of which are two wine jars with the usual "plenty" sign and heaped again with the sign *qan*, one of them showing the serrated back of the lizard (Fig. 164).

Similar scenes are enacted on the next three pages. At the bottom of p. 29 (Fig. 165) the bald-headed *Čak* in a boat has on his brow the turkey head, while near the boat there is a wine jar with the *kib* sign, instead of a day glyph. Next to him is a black *Čak* in a boat over the sign of "fire" and a wine jar topped by a lizard. The most telling pictures are at the top of pp. 34 and 35 (Figs. 166, 167). In the upper right corner of p. 34 is a turkey with the necklace *qan* and an *itsli* on his forehead. In the middle is an altar or temple with the *kaban* sign and a fantastic head upon it. To the left a bald-headed person is sitting before a syphon-like vessel with a plant in it and a *qan* filled wine jar above it. To the right a bald-headed Negro with a bead necklace is drawing through a tube the juice from a plant like the one to the left. On p. 35 the bald-headed *Čak* is lying prostrate. Below him is the Negro, whom we have already met in connection with the Bee God in Codex Tro-Cortesianus, here represented with a bead necklace. In the middle is a fire altar with a wine jar above it crowned by *qan* and a bird. We also have a vessel with the *kaban* sign and above it a vessel with the leg of the deer, while to the right *Čak* of the crossroads, as indicated by the footsteps on his apron, is seated on a heap of five stones with footsteps upon them. In front of him is something that looks like a distilling flask. Here again we have a series of Negro characteristics. The very last picture (Fig. 168) of the first part of the manuscript after which a new chapter begins, contains the picture of *Čak* in a boat with markings of the wine jar, paddling across the water. On the prow of the boat is a bundle of goods such as is carried by traveling merchants. This is topped by a vessel from which rises the head of the *tsopilotl*, with a Negro eye. It may be that the bird is intended for a turkey, though the comb and wattles are not noticeable, but that would not make any difference, since the god *Čak* is identified with the turkey, as in Codex Peresianus (Fig. 169), and represents the transformed Negro with the *tsopilotl* even as Seler¹ has observed the correspondence of "turkey" and "vulture" in Mayan codices. The correspondence seems chiefly to be due to the fact that both the turkey and the *koskakwauhtlis* are bald, even as in Huasteca we have *pita* "turkey" and *pitotol in ok* "bald," literally "his head like a turkey's." Similarly Maya *kuts* "turkey" also means "to rub clean with a cloth," while in Aguacateca we have *kus* "vulture," hence it is most likely that Nahuatl *koskakwauhtli* is a popular etymology, when it is taken to mean "bead eagle." It should be "shining," that is, "bald" eagle, from the same root as the "turkey" word in Maya, even as we have Maya *kuska* "jewel" and *kus* "brilliancy, shining" and actually *kos* "buzzard."

¹ *Codex Borgia*, vol. I, p. 287.

In the upper right-hand corner a vessel, topped by the sign *qan*, is surcharged with the lizard. Here we have the complete story of the Negro who crossed the ocean as a merchant and brought the art of extracting pulque from the agave plant and distilling it on fire, and became the god of the traveling merchants and was ultimately merged with *Čak*. The bead necklace which the Negro wears is unquestionably the cause of changing the name of *tsopilotl* to *koskakwauhtli* "the bead eagle," which is again indicated by endowing the bird with a Negro eye.

Many of the Mexican and both the Mayan codices under discussion contain two or three versions of the same story. This is made clear not only by the use of two or three different hieroglyphic writings in the latter, but also by the fact that the manuscripts are composed of several parallel divisions beginning with mere chronological or astrological calculations and ending with accounts of cosmological intent. We have already seen that in Codex Borgia the series of twenty days are treated in variant redactions. Of these distinct redactions I shall treat another time. In Codex Tro-Cortesianus I recognize at least three versions. We shall later follow through the whole of the manuscript the version of the Black God apart from his identification as the Bee God.

X.

The Philological History of Maize.

1.

ON October 16, 1492, Columbus expressed his belief that *panizo* was sowed and harvested in America all the year.¹ On November 6 he is again made to refer to "the same *panizo*,"² to which one manuscript adds "a grain which the Indians call *maiz*." Either Columbus did not distinguish between ordinary millet and maize or he did not see enough maize in use to have his attention specially attracted to it. Only in his third voyage, in 1498, he again referred to maize, "a seed which makes an ear like a *maçorca*, of which I brought some back and of which there is now a great quantity in Spain."³ In his *First Decade* Peter Martyr spoke of the American grain, "maize," as being the same as Milanese and Andalusian "*panicum*": "They in a similar manner make bread from a certain '*panicum*' flour, of which there is a great quantity among the Milanese and Andalusians. Its ear is more than a palm in length, ending in a point and almost of an arm's thickness. The grains are remarkably arranged by nature and are of the form and size of peas. They are white when not yet ripe and upon ripening become black. When ground they are whiter than snow. This kind of grain is called *maiz*."⁴ This was written in 1516, and in 1552 João de Barros described the Wolofs in Guinea who lived on *milhos de maçaroca*, "which we call *zaburro*,"⁵ from which it appears clearly that *maçaroca* is not merely the Spanish and Portuguese word for "ear, cob," but actually the name of a particular grain, and that about that time it was identical with "maize" appears from the specific equation of *zaburro* with the American maize, for Soares de Sousa said, "In all of Brazil there is a native plant, which the Indians call *ubatim* (it should be

¹ *Raccolta di documenti e studi pubblicati dalla R. Commissione Colombiana*, parte 1, vol. I, p. 23.

² *Ibid.*, p. 37.

³ "*Mahiz*, que es una simiente que haze una espiga, como *maçorca*, de que llevé yo allá, y ay ya mucho en Castilla." *Ibid.*, vol. II, p. 32.

⁴ "Panem ex frumento quodam panico, cuius est apud Insubres et Granatenses Hispanos maxima copia, non magno discrimine conficiunt. Est huius panicula longior spithama, in acutum tendens, lacerti fere crassitudine. Grana miro ordine a natura confixa, forma et corpore pisum legumen aemulantur: albescent acerba: ubi maturuerunt, nigerrima efficiuntur: fraeta, candore nivem exuperant: *maizium* id frumenti genus appellant."

⁵ *Decada primeira da Asia*, Lisboa, 1628, liv. III, cap. 8, fol. 49b.

ubati), which is Guinea millet, and which in Portugal is called *zaburro*. . . . The Portuguese plant this millet with which to feed the horses, cattle, chickens, goats, sheep, and pigs, and they provide it to the Guinea Negroes, who do not like it, although it is the best of their land."¹ Even as early as 1520 *maiz* was translated by *miglio zaburo*, which a Portuguese pilot described in the Island of St. Thomas in Africa, where "in the month of August they begin to sow the grain, which they call *miglio zaburo*, and in the West Indies *mahiz*, which is like white chick-pease, and is eaten in all the islands above-mentioned, and along all the coast of Africa, and forms the sustenance of its inhabitants."² "They eat this seed . . . and make of its flour bread or, rather, cakes baked in the ashes."³

We must first establish the origin and meaning of *maçorca*, *maçaroca*. The Spanish dictionaries give for Spanish *mazorca*, Portuguese *maçaroca*, "distaff or spindle with the wool, cob of maize, ear of millet," Portuguese *maçaroca* "an ear of maize, or, more properly, the filaments of such an ear, the yarn of a spindle, hair in lock form," while Alcalá translates Spanish "maçorca de hilo" by Arabic *maçorca maçariq*, which is not recorded in any Arabic dictionary, but the existence of which in the language can be proved beyond any doubt. We have Greek *ἄτρακτος* "spindle," which has been connected with Latin *torquere* "to twist" and Sanskrit *tarku* "spindle." The latter word, however, does not exist before comparatively modern times, for it is first recorded in Amarakosa, who is variously located from the sixth until the twelfth century A.D. and who, therefore, cannot serve as an early source of reference. The Greek "spindle" word is unquestionably of Hamitic origin and related to the reduplicated root *karkar* which appears in the Indo-European, Semitic, Hamitic languages for "to turn around," such as Latin *circus*, Greek *κίρκος* "circle," Egyptian *kerker* "to circle," in modern Hamitic as a *tartar* variant in Saho, Afar *tartar*, Bedauey *talal* "to turn, spin." The mixed form *tarkar* appears in Kabyl *taruka*, *tharuka* "distaff, spindle." The Arabic *m-* derivative of this Berber word, which is recorded in Alcalá, has not maintained itself in the literary language, having given way to *m-gzl*, but may be traced from Spain to Central Africa and Asia. The novel Berber root

¹ "Dá-se outro mantimento, em todo o Brazil, natural da mesma terra, a que os indios chamam *ubatim*, que é o milho de Guiné, que em Portugal chamam *zaburro*. . . . Plantam os Portuguezes este milho para manutenção dos cavallos, e criação das gallinhas e cabras, ovelhas e porcos; e aos negros de Guiné o dão por fruta, os quaes o não querem por mantimento sendo o melhor de sua terra." *Tratado descriptivo do Brasil em 1587*, Rio de Janeiro, 1879, p. 162.

² G. B. Ramusio, *Delle navigationi et viaggi raccolte*, Venetia, 1565, vol. I, fol. 115a.

³ *Ibid.*, fol. 117b.

tharuka has given rise to the Arabic derivative *mšrq*, while *taruka* has been taken as a *t*- derivative of a root *rq*, in which latter case it led to Arabic *ruqqah* "distaff, spindle," which has entered into the Romance and Germanic languages, for we have Italian *rocca*, Spanish *rueca*, Portuguese *roca*, O. H. German *roccho* "distaff." In Persia it led to *duk*, while in India the fuller Berber *taruka* has led to Sanskrit *tarku* "spindle," represented in Hindustani *takla*, *takua*, *takwa*, so that Persian *duk* may have arisen from the latter, rather than through the apocopated Arabic *ruqqah*.

It can also be shown that popularly Arabic *mšrq* deteriorated to *mšr*. Unfortunately we possess no good record of "spindle" words in Africa under Arabic influence, but the two cases mentioned in Hausa and Peul fully prove such deterioration. We have Hausa *mazari*, *mazari* "spindle," as if from *zarre*, *zarri*, *zale* "thread," which, by the side of Kandin (Berber) *zalei*, Bagirmi *selei*, Songay *gerze*, Kanuri *gerasan*, Gurma *gale*, Malinke *gese*, etc., point to Arabic *gazl* "cotton thread," from which we actually have Arabic *migzal* "spindle," but even here we have *midarraḥ* "spindle," as if from *darra* "he ran vehemently," although unquestionably a root *mšr* lies at the foundation of the word. Similarly we have Peul *masali* "spindle," which is similarly derived. We find the abbreviated Arabic root in Persian *māsūr*, *māšūr* "weaver's spool, upon which the yarn is wound and which is placed in the shuttle (*makkik*) to weave with," *māsūra*, *māšūra* "small reed upon which the weavers wind the yarn for weaving; raw yarn wound on the spindle; sucking reed-pipe, tube; everything disheveled."¹ In Kurd we have *māšire* "pipe," while in Turkish there are recorded *māsūr*, *māsūrah*, *māšūrah*, *māšrah*, *mašrah* "thin reed upon which the yarn is wound, thin reed placed in the shuttle (*makkuk*), pipe, a certain measure of water."

This shorter *mšr* is also found in the Spanish peninsula where we have Spanish, Portuguese *mazorro*, *mazorral* "rude, clumsy," but here a confusion has taken place with a totally different Arabic word, namely, *miḥṣarah* "anything that a man takes with his hand and holds, such as a staff; a rod which a king used to take in his hand, with which he made signs or pointed in holding a discourse," and which has produced Spanish *mazorra* "big wooden club," where the confusion with *mazorca* appears in *mazorcador* "flail," but we also have *macero* "macebearer." These have given rise to the verb *mazar* "to strike with a club," as though the endings *-orra*, *-ero* were suffixes; hence we arrive at *maza* "club, mace, stick, a clumsy man," *mazo* "ramrod, beetle, bundle," *maceo* "to strike with a club," *maceta*

¹ *Zeitschrift der deutschen morgenländischen Gesellschaft*, vol. XII, p. 333 ff.

"handle, cob, beetle, clumsy man." The corresponding forms in the other Romance languages need not detain us.

In Arabic the shorter forms *miṣriy*, *maṣriy* have, like the longer Spanish *mazorca*, come to be applied to the ear of maize, but generally of the yellow variety, and by popular etymology this has been referred to *Miṣr* "Egypt," as though this country were the origin of the plant. In Africa we find it in Abyssinian *masilla*, Bilin *masela*, Bedauye *masela*, Kandin (Berber) *damasara*, Hausa *masara*, *damasara*, Peul *masara*, Songay *masar*, Bagirmi *masar*, Kamuku *limasara*, Kanuri *masarmi*, Pika *damasali*. In none of these regions is the name transferred to Guinea corn or millet, but in the extreme North-west we find Bola *bumad*, Sarar *pumad*, Pepel *bomadza*, Biafada *madya*, Padzade *mahadye* "Guinea corn," by the side of Sarar *pumaidzi mumbarwo*, Pepel *bumadza bumbawa*, Kanyop *bumagi* "maize," which is due to the confusion of *bumbawa* "maize," as we shall later see, with the other term for "maize." In Bantu territory the *ma-* has generally been taken as a class prefix giving rise to Gurmana *mu-soro*, Kimbuno *ma-saa*, Teke *sa*, Bayanzi *a-sa*, Yaka *ma-sis*, Bambala, Kikongo *ma-sa*, Kimbundu *m-asa*, Ngola *d-esa*, *m-asa*, etc.

In 1591 Andrew Battell wrote: "They have four sorts of corn in Longo. The first is called *Masanga*, and it groweth upon a straw as big as a reed, and hath an ear a foot long, and is like hempseed. The second is called *Masembala*. This is of great increase, for of one kernel there springs four or five canes, which are ten foot high, and they bear half a pint of corn apiece. This grain is as big as tares, and very good. Thirdly, they have another that groweth low like grass, and is very like mustard-seed: and this is the best. They have also the great Guinea wheat, which they call *Mas-impoto*. This is the least esteemed."¹ In the Angola dictionary we find *risa*, pl. *masa*, "espiga de milho, maçaroca,"² which definitely refers to "maize," but we also have *masangu* "penisetum typhoideum," *masambala* "sorghum," for which we also have *mbala*, but *masimpoto* is not given. As *masa* nowhere else in Bantu territory, any more than here, is transferred to other plants, it follows that in Angola the extension at the end of the sixteenth century was due to the generic use of Portuguese *milho* for plants in some way resembling millet. This is proved by the alternate forms, *masambala* and *bala* for "sorghum" and variations of *poto* throughout Africa for "maize," without

¹ *The Strange Adventures of Andrew Battell of Leigh, in Angola and the Adjoining Regions*, in *The Hakluyt Society*, Second Series, No. VI, p. 67.

² J. D. Cordeiro da Matta, *Ensaio de diccionerio kimbundu-portuguez*, Lisboa, 1893.

the prefixed *masa* except here and far to the north, near Cape Verde, again under Portuguese influence, as in Sarar *pumaidzi mumbawo* and Pepel *bumadza bumbawa*. When Columbus used the term *maiz* for "maize" he was using an African term even as *maçorca* used by him refers to "maize," as known before the discovery of America.

2.

WATT¹ gives for "maize" Hindustani *kukri*, Punjabi *kūkri*. In the Hindustani dictionary we find *kukri*, *kūkri* "clew, hank, skein; a ball of thread on a spindle, thread knotted or twisted when on the spindle, a curved knife, a cob of Indian corn, seed vessel of maize," which is obviously related to Hindustani *kūknā* "to wind, twist, form into hanks or skeins, wind up, tune," and this, in its turn, is an abbreviation of the universal *karkar* mentioned before. The nearest to this Hindustani form is found in the Dravidian languages, where we have Kannada *kokke* "crook, bend, hook," and similarly in the other Dravidian languages, from an original *korke*, which itself is derived from the simpler *kur*, as preserved in *kudu* "the state of being crooked, tortuous." In Kannada *kadaru*, *kadir* "spike of corn, ear, spindle" we have a similar transformation of a more primitive *kakaru*, from which we have the nasalized Kannada *kañki* "an ear of millet, the grains of which have been removed." It is most likely that Greek *κέρχρος* "millet" is derived from a Dravidian language.

In Persian *kūh* is recorded for "to tune," as in Hindustani, hence must also have meant "to wind," but here the corresponding "millet" word is *gawars*, Arabicized (by Ibn Al Awwam) as *gāwars* and also given as *gāwarš*. It is not possible definitely to determine its etymology, though it seems to be some kind of derivation from the Hindu "millet" words. In India we have Hindustani *ju'ār*, *jawār* "Indian millet (Andropogon sorghum), maize," *juwāra*, *jawāra* "Indian corn, maize, large millet, barley." Other forms are *jundī*, *junarī*, *junrī*, *junharī*, *jondrī*, *jondī*. It is generally assumed that all these are derived from Sanskrit *yava-nāla* "Andropogon bicolor," where *yava* originally referred to barley. The specific Hindu word for "maize" is derived from the root *makka*, as though from the Arabic word for "Mecca," even as the African and European words were popularly derived from *Miṣr* "Egypt." We have in India Hindustani *makkā*, *makā's*, and Watt similarly records Uriya *makā*, Kumaon *muknī*, Garwhal *mungari*, Punjabi *makkei*,

¹ G. Watt, *A Dictionary of the Economic Products of India*, London, 1893, vol. VI, pt. IV, p. 327.

mak, *makkī*, Rajputana *mukka*, while in many places some derivative of Hindustani *ju'ār* is added. Thus we have Deccan *makka-jāri*, *makka-jawārī*, Tamil *makkā-šōlam*, Telugu *mokka jonna*, *makkā zonnalu*, Kannada *mekke-jōla*. These Hindu *makkā*, *makkī*, etc., are all Arabic *m*-derivatives from *kuk*, recorded in Arabic as *makkuk*, *makkik* "weaver's shuttle, cup in the shape of a ship" and is found as such in Persian, where we also have *makku*, while in Hindustani is recorded *mākhū* "shuttle." As the spindle reed is placed into the shuttle, the confusion of the two words is only natural. The meaning "ship cup" is identical with German "Weberschiffchen," French "navette" for the shuttle, due to its resemblance to a moving ship.

In Africa the presence of this Arabic form is attested by Arabic Adirar *maka*, Beran *makāri* "maize," and the latter form shows distinctly a confusion with *maṣriy*, since in Africa *s*, *ṣ*, and *k* frequently interchange. A similar confusion may be found in Buduma *mahara*, while in neighboring Kanuri we have *masarmi*. In the extreme west we have Hassania Arabic *maka*, hence Peul, Soninke *maka*, Wolof *makande*. In Mosi this Wolof word is transformed to *kamande*, *kamana*, which in Guresa becomes *kimbuna*, of which further deteriorations are found in the Mande languages where we have Soso *kabena*, *kabei*, *kabe*. These forms are found, side by side with *maka*, in Malinke *kaba*. We also have Nupe *kāwa*, Kupa *akāba*, while in the related Esitako Guresa *kimbuna* has given rise to *karawa*. Koelle¹ further records Basa *kāwa*, Ewe *akarāba*, Opanda *agwa*, *āgba*, Egbira-Hima *agwā-gwa*, Basa *ākalāba*, Peul *kāba*, Kambali *karābu*, Baga *kenkābe*, Igola *akāgwa*. In Dahome *agbade* we have Guresa *kamande* passing through a form *kabade*, and the Dahome form is further abbreviated in Yoruba *agbado*, *agwado*, Oloma *ugbado*, Gbesi *gbai*, etc. Thus it appears that from the Wolofs the original African Arabic *makari*, *maka* moved towards the east and south, through the Mosi and the Guresi. But the Arabic *maka* is found even in Nubia, where it appears as *makade*, hence the same Arabic influence which spread *maṣriy* from Egypt to the Atlantic also brought the transformed *maka* and bequeathed it to the northern part of Africa. The very transformation of these two roots to meanings "Egypt" and "Mecca" respectively shows that the dissemination of the plant was from west to east, then southward. At the same time it is clear that the Arabs brought the plant from a region where it had the etymological meaning of "spindle," and this, as we have seen, is in a region from which the Hindus derived their "spindle" corn.

¹ S. W. Koelle, *Polyglotta africana*, London, 1854.

3.

THERE is a Hindu word, *bhuṭṭā* "spike or ear of corn or grain, Indian corn, maize," and Watt also gives Bengali *bhutta*, Bombay *butta* "maize," and adds the remark, "it is somewhat significant that this same word *bhutta* or *bhuta*, is, in the various languages of India, often given to widely different things, but mostly to introduced plants. Thus, for example, in Kumaon *bhūta* means "the egg-apple (*Solanum melongena*)." As the latter plant is in India chiefly known by its Arabic name, which is variously written *baidangan*, *badangan*, we have in *bhūta* a transformation of Arabic *baida* which, since it also means "egg," has ultimately led to English "egg-plant." The origin of *bhuṭṭā* for "maize" may be determined by a study of the maize words in neighboring countries. In Annam we have *bap* for "maize," and the ideographic sign for it is formed from Chinese "tree" + "the plant *puh*," the latter term being applied in Annamese to large fruit. *Bap* is in all probability a corruption of *puh* or, as it sounds in Annamese *phu*, from which it follows that the old pronunciation of *phu*, which in Chinese was *put* or *puk*, would be that of the maize. This is borne out by Khmer and Siamese (Khao) *phot* "maize." As the word must mean both "maize" and "large," we must look for the origin of the word in a language which combines these two terms. This we find in Lepcha, where "maize" is *kun-tson*, literally "the crest or hairy plant," but we also have *apak* "ear of corn," from *pak* "large, stout." From this it would follow that Tibet or some country close by is the native home of maize. This coincides with the sixteenth century tradition of Wang Shih-Mon, who calls it "Tibetan wheat."¹ Indeed it is not impossible that the Hindu term *bhuṭṭā* is not so much a reproduction of the Lepcha *pak* "corn" as of Tibetan *Bod* "Tibet," since even the Chinese term *fan* "foreign" in *fan mai* "maize" is by Laufer considered to be a transliteration of Tibetan *Bod* "Tibet." In any case, a contamination of the two terms is to be assumed.

The Arabs carried the Tibetan or Hindu name of maize to all of Africa. We shall first discuss the name for "foreigner" in Africa as derived from Arabic *'abyad*, fem. *baiḍa'u*, "white." G. Ferrand² has already observed that Malagassy *vaza*, *vazaha* "stranger, white man, Christian," are derived from Arabic *bayād* "whiteness." We have in the Arabic of Adirar *abiadun*, pl.

¹ B. Laufer, *The Introduction of Maize into Eastern Asia*, in *Congrès International des Americanistes*, X^e Session, Quebec, 1907, p. 232 f.

² Étienne de Placourt, *Dictionnaire de la langue de Madagascar, d'après l'édition de 1658*, Paris, 1905, pp. 81, 130.

baiādūna, in Beran (*radžil*) *abiad*, pl. (*rašāl*) *aboir*, in Hassania *biodani* "Arab, white man." This has led in Berber Kandin to *bature*, pl. *turawa*, which are from Hausa *bature*, *baturi* "Arab," *ture*, pl. *turawa*, "Arab, European stranger," *turanči* "what belongs or appertains to Arabs" or "whites in general, the Arabic language." C. H. Robinson¹ assumes that this is from the Arabic *tūriy* "wild, a stranger," which is obviously impossible, since the Arabs would not refer to themselves as "wild." At the same time it is clear that the Hausa and Kandin words are formed like Hausa *Balarabi*, pl. *Larabawa*, "Arab," in which *ba* is the singular prefix of nationality, for which the plural is the suffix *-wa*. In Hausa *Ba-ture*, *Tura-wa* we have merely a popular etymology, due to the initial syllabic *ba-*, which admits of such an identification.

Hassania Arabic *Biodani* led in the extreme west to Bulom *potuno*, pl. *apoto*, Mampa *poduno*, Timne *opoto*, pl. *apoto*, "white man," and further to the east we find Arabic *d* represented by *s* in Kanuri *wāseli*, *wāsili*, by the side of *batūre*, *badūre*, Bode (*mudu*) *bīša*, Karekare *wāseli*, Doai *wāšili*, Bagirmi *wāsili*, while Kambali *batāle* "white man" furnishes the intermediate step between *batūre* and *wāsili*. At the same time western *poto* gave rise to the Mande forms in Mano *pūru*, Gbe *o purni*, *o puruni*, Gio *pū*, Basa *pu*, *purni*, Kra *ō puro* "white," hence in the Mande languages to Kono *purumūe*, Vai *purumō*, Soso *forotōno*, *forotūe*, Gbandi *purūmoi*, Landoro *hūrōa*, Mende *purumō* "white man." We also have Limba *porōto*, while in Peul *portoo* (pl. *porto'be*), which in some dialects appears as *portongedžo*, *fortankedžo*, there may be a confusion with Portuguese *Portuguez*.

It is not necessary to enter into the discussion of all the "white" words in Africa, and we shall confine ourselves to Tchi and certain other interesting forms. In Tchi we have *buro* "European," as in *Aburo Kyiri* "the white man's country, Europe, America," *oburoni*, *burofo* "European." In Peul the shorter Hausa *ture* "European" has led to *tōrādžo*, pl. *tōrō'be*, "European," hence *Ture*, *Tore* "Europe," but the first has also deteriorated to *tūbāq*, pl. *tūbāqōbe*, and these have led to Landoma *otābu*, pl. *atābu*, Banyun *obābo*, *bābo*, Bidžogo *otuwāgbo*, *otubāgo*, while the shorter Hausa *tur* has produced Nupe *tūra*, Kupa *etūra* "white man." The form *bābo* is found again in Bola *mambābu*, pl. *bambābu*, Sarar *nambāwo*, *bambāwo*, Pepel *nimbābu*, pl. *bōmbābu*, Kanyop *nabābo* "white man." Bidžogo *otubāgo* is again found in Wolof *tubāb*, Mandingo *tibābu*, but also *baba* "white man," while in Bambara the latter has the meaning "north." In Bantu territory Sir Harry H.

¹ *Dictionary of the Hausa Language*, Cambridge, 1899, p. 243.

Johnston¹ remarks: "The distribution of these variants of an original *-zuñgu* suggests the following explanation: We find that this root-word is most strongly represented in the eastern half of Bantu Africa with the variant *-luñgu* in the extreme southeast. It is possible that *-luñgu* may link up this root *-zuñgu* with the well-known root-word for 'God,' the first light-skinned immigrants into Eastern Equatorial Africa being certainly associated with the idea of a semi-divine person. But in addition to the eastern half of Bantu Africa wherein this root-word may have originated in the equatorial regions from the arrival of the first civilizing Hamites or Arabs, we find the root also throughout the heart of Congoland, and what is still more remarkable, in Angola, as far south as the Kioko country." Sir Harry H. Johnston is clearly mistaken, since the *-zuñgu* words are all derived from the Malagassy *vazaha*, which has become nasalized, and *ba-*, *va-* or *wa-* have been taken for plural classifiers. Thus we have Ronga *mu-luñgu*, pl. *ba-luñgu*, Ronjero *mu-juñgo*, pl. *ba-zuñgo*, Quelimane *m-zugu*, pl. *va-zuku*, Fipa *un-zuñgu*, *vazuñgu*, etc.

From India "maize" was carried to the Malay people together with the Hindu word *ju'ār*, *joñdri*, which here became *jagong*, the generic name for "maize." From the Malay people it reached Madagascar as *tsako*, *katsaka*, of which several varieties are recorded, one of them being *katsabazaha*, as though it were a foreign variety. Either the other varieties were not foreign, that is, they were native, or *bazaha* has no specific reference to foreign importation, that is, it merely refers to a particular variety ultimately derived from India or Tibet. Even thus Kimbundu *masimpoto* has no reference to "Europe" or "Portugal," but to "foreign," in the older Arabic sense of a popular transformation of the same Hindu *bhuttā*. Similarly Sarar (*pu-maidži*) *mumbāwo*, Biafada *ntubānyo*, Pepel (*bumadža*) *bumbāwa*, Padžade *tubānyo*, Landoma *kebābu*, Banyun *dibābo*, *diwāwo* are all derived from Mandingo *tubāb-nyo*, *tubā-nyo*, *baba-nyo* "maize of the white variety."

As we have seen, all these "maize" words are derived from an Arabic *abyaḍ*, which form was unquestionably widespread over Africa, before the many phonetic deteriorations now recorded. It is doubtful whether the Arabic "maize" word and the maize itself reached Guinea long before the twelfth century—it certainly could not have been known before the eighth century. When the Portuguese pilot in 1520 said that on the coast of Western Africa the maize was known by the Portuguese as *miglio zaburro*, he was translating the native *masimpoto* of Angola, which was in Bantu

¹ *A Comparative Study of the Bantu and Semi-Bantu Languages*, Oxford, 1922, vol. II, p. 413.

conceived as *ma-simpoto*, and further north, off the Ivory and Gold Coasts, as revealed in Ashante *aburow*, must have been something like *saburo*.

In America the Arabic *abyad* "maize" appears in the regions nearest to Africa, in the Tupi and Carib languages. For Tupi there are recorded *avaty*, *avatyî*, *ubatim*, and in the Tupi dialects we have Guarani *abati*, Aueto *avaçi*, *havatsi*, Cocanca *awate*, Oyampi *arwasi*, etc. In the Carib languages we have Galibi *awasi*, Kariniaco *awaçi*, which in Bakairi becomes *anaçi*, *anahi*, *arahi*, and gives rise to Chayma, Kumanagoto *añaze*, *ayaze*, Tamanaco *aknakke*, Makusi *anai*, *anaim*, Roucoyenne *enai*, Paravilhana *aïhniain*, Accawai *ahnaï*, Ipurucobe *anaim*, Tamanaque *aknaçe*, Aparai *oçinake*, Ande (Campa) *çinki*, which latter leads to Aymara *tonko*. Other deteriorations, possibly from Tamanaque *aknaçe*, are Mandanaca *makkanaši*, Yabitero *kahana*, Conyana *kanak*, Piapoco *kkonai*, Pinnabe *kkan*, Mapayo *ohonai*, Maquiritare *enak*, Yabarana *nakçi*, Narao *neukamo*. Tupi *avati* reached the Araucanian in the form of *ua*, *hua*, *gua*, that is, as *wa*, while in the extreme northwest in Chibcha we get *aba*. The phonetic deteriorations take distinctly a southwesterly and northwesterly direction, and still more directly to the west through the interior, from which it must be assumed that the maize from Africa reached Brazil and rapidly spread along the coast, and more slowly through the interior, ultimately reaching the Aymaras through an Ande or other neighboring source. In Insular Carib we also have *marichi*, which appears in Arawak as *marisi*, in Mehinaku, Kustenau, Waura, Yaulapiti as *maiki*, and C. F. P. Martius¹ further records Puri *maky*, Coroado *mabeky*, Sabuya *masikoh*, Canitana *mazy*, which I formerly² assumed to be late borrowings from Spanish *maiz*, but which, it can be shown, are older than the so-called discovery of America, and are of Arabic-Mandingo origin. The further philological history of maize, in Mexico and Mayan territory, is closely connected with the history of the first day glyph, to a study of which we now proceed.

4.

SELER³ has observed that *sipatli* is phonetically identical with *tsiwaktli*, a spiny plant, represented in the glyph *Tsiwaktepetl*, "thorn hill, or a cactus," as given in the glyph *Tsiwakmitl* "spine dart." *Tsiwa-*, *sipa-* presuppose a form *siba*, of which the meaning would be "barbed, spiny." We have a similar word in Tarascan *tisimekwa* "beard," from *tisime* "bearded man," but this is itself a derivative from a root *tisi*, since we have *tisitisiras* "velvety,"

¹ *Glossaria linguarum brasiliensium*, Erlangen, 1863, p. 427.

² See my *Africa*, vol. III, p. 122.

³ *Codex Borgia*, vol. I, p. 6.

tisirukwa "hairs in the nose," *tisihčakwa* "old hair." That *tisi* goes back to *tsi* or *si* appears from Zapotec *wiči* "hair," Aguacateca *šil*, Mam *šil* "hair," Maya *šii*, *šil* "to stand up (of hair)," from which the *-ma* derivative is found in Kekchi, Pokonchi *ismal* "hair," Uspanteca *usimal* "hair, beard," Cakchiquel *usumal v*, Mam *samal šiam* "hair," Chanabal *itsimal*, Tzotzil *itsim* "beard," Uspanteca *asamči*, Cakchiquel *usmači*, Pokonchi *isinči*, Aguacateca *šmatsi*, Pokoman *rismalči*, Pupuluca *vasmači*, which are derived from "hair" + *či* "mouth." All these presuppose something like *ši* or *iš*, and we have, indeed, Kekchi *iš* "the back and its covering, such as feathers, scales, skin, rind, shoulder," which becomes in Pokonchi *ih*. In the latter two languages this "back" word has become a postposition meaning "behind."

We also have Nahuatl *tsomitl* "wool, hair," *tsontli*, *tsuntli* "hair," from which a large number of derivatives are recorded. These variations of *sim*, *sin* are also found in Mayan languages, where we get Pokonchi *tsuħum*, *ts'uħum*, *tsuħmal*, *ts'uħmal*, Kekchi *ts'um* "skin, leather," Maya *tsoots*, *tsots* "hair," which is probably borrowed directly from the reduplicated Nahuatl *tsotsonyo* "hairy." The Pokonchi forms presuppose an unsuffixed *tsuħ*, and we actually have recorded Ixil *tsuk* "a bundle of hair." Just as French *piler* "to flay" is related to *peau* "skin," so we have Nahuatl *šima* "to shave," and *šipewa* "to flay," *šipe* "the flayed (God)," for which we have in Maya the corresponding *džip* "to flay, eviscerate." This god is also an earth god, and he has the mark of the *šipatl* upon him.

Before tracing the various confusions that have taken place in America between the "hair" and "maize" words, it is necessary to study a certain series of *si* words in Mande in Africa, which has arisen from another series of confusions. I have already shown how a series of Arabic words led in Malinke and Bambara to *sa*, *sā* "heaven, rain, year, time, death, serpent."¹ Arabic *sā'ah* "hour, instant, death," from which some of these meanings are derived, has had a chequered career in Mande. We have Bambara *sasa*, *sasan*, *sisan*, *sisannino*, Malinke *sasā*, *sān*, *sigē*, *sisā* "now," all derived from *sā* "year, time," which reveal a secondary form *si-*, actually found in Bambara, Malinke *si* "duration of time, life, generation, essence," but there is clearly here another confusion with Arabic *sīrah*, which means "going, manner of going, course, conduct, manner of life, biography, condition, stories of the ancients, wheat or other provision that is brought from a place to be laid up in store." Arabic *sā'ir*, which is probably of another origin, means "the remainder," but popularly "the whole, all of a thing or of people." In Africa we have Kabyl *sira* "the slow walk of beast of burden," Shawiah *sirt* "con-

¹ See my *Africa*, vol. III, p. 311 ff.

duct, manner, custom." In Hausa we find *tseré* "to run," *širi* "preparation," *siri* "to prepare." In the Mande languages we have Bambara *sira* "road, path, manner, fashion, method," *sira fana* "provisions for a journey," *Alla sira* "religion," hence *sira mine* "to take religion," *siramineba* "religious, faithful." In Malinke we have similarly *sila*, with the same meanings. In Vai and Soso *s* has changed to *k*, and we have *kira* "road, path." This has been shortened to *ki* "manner, fashion, conduct," which is the phonetic exact correspondent to Malinke, Bambara *sí* "nature, essence, condition, people, race, generation, life, seed, sense, significance." We also have Bambara *sira* "a remainder," which is the same as Arabic *šā'ir* and precisely the opposite meaning "the complete number," as in Arabic popular usage. In Bambara it has become confused with *sigi* "seat" and is used to denote "eighty, eight hundred, eight thousand," when used respectively for "hundred, thousand, ten thousand." But in Dyula *sira* is similarly attached to "hundreds" or "thousands," to express a complete count. *Sira* in the sense of "remainder" seems to have led to Malinke *sí* "none." In Bambara it is used with a negation, which shows that the original meaning of *sí* was "something." It is more likely, however, that Arabic *šā'* "thing" is the origin of the Mande "none."

Malinke, Bambara *sí* also means "hair, wool, beard, feather," hence *sí bo* "to pluck," and the adjectives *siba*, *sima* "that which has hair, barbed." This, too, seems to be of Arabic origin, for we have Arabic *ḥašīš* "hay, grass,"¹ which has spread all over Africa and has in the Mande languages led to "hair." We have, in the Berber language, Tamazirt *leḥšiš*, Beni Menacer *ḥašīš*, Harakta *aḥšīš*, Shawiah *ḥšīš* "grass," hence Hausa *ači*, *čiawa*, *kiarwa* "grass," *hači*, *hatsi* "corn," and as *čiawa* produces *kiarwa*, so *hači* leads to *haki* "grass," of which the plural *hakukua* presupposes the Arabic for *ḥašīš*. In the Mande languages we have Soso *saḥe*, Soninke *sekke* "grass," Bambara *tí*, *tí* "straw," which presuppose a form *sí*, for here *s* generally passes into *t*, *t*. Indeed, we have Malinke *sí* "hair," but this occurs only in the combination *kunsí*, literally "hair grass," precisely as in Soso *kunsaḥe*. Similarly, for "hair" we have Bambara *sigi*, Kono, Vai *dí*, Gbandi *deḥai*, Landoro *ndeḥa*, but only when preceded by "head." In the Mande words we have a continuation of the Arabic "grass" word with a native Hamitic "hair" word. We have in the Semitic languages Assyrian *šārtu* "hair, the bearded cereal (barley)," Hebrew *šār*, Arabic *šār*, Abyssinian *tagwur*, *čigar*. Coptic *šaar*, Berber, Shawiah *šar*, like Egyptian *sa'areta*, are, no doubt, borrowings from the Semitic. But we have in the Hamitic languages Saho

¹ This has already been given before, but is here repeated for fuller treatment.

tagar, dagar, Bilin šaguer, then in African languages *Klesem imzar sekā*, *Affade imsege*, *Mackeri mesegē*, *Nghala missege*, *Budduma injigge*, *Kurry jikke*. Hausa *tsegia, saje*, Peul *sukunde* are of the same origin, and the Mande forms *sahe, sihi, sokke* show their "hair" origin, although, under the influence of Arabic *hašš*, many of the Mande words have assumed the meaning "grass."

Precisely the same confusion, based on the same *ši* root, has taken place in Mexico and in Mayan territory. In Mexico Mande *si* "hair," *siba* "haired, barbed," have led to *tsiwaktl* "thorny plant" and *sipatl* "the barbed one, crocodile, shark," which stands for "that which sprouts, springs, upon the earth" or "that which descends into the earth, death," but we can observe this generalization and relation to "earth" already in Africa. We have, from the fuller Arabic *sirah* "manner of going," Kabyl *sira* "walking of beast of burden, trot," as well as "conduct," *sar* "to trot," *sair* "messenger, carrier," hence Hausa *tsire* "to run away," *tseri* "a foot or horse race, to outrun," but here we have a contamination with Arabic *ṭir* "to fly, take flight and run away"; hence Hausa *tsoro* "fear, terror," *tsira* "deliverance, salvation," *čira* "to deliver, save," and, becoming contaminated by Arabic *ṭar* "fur, soft hair, it clove the earth, grew forth, sprouted," produced Hausa *tsira, čira* "to spring up out of the ground, sprout, arise," *šira, sira* "plant." It is significant that we have the phonetically identical *sari, tsari* "water iguana, about five feet in length, resembling a crocodile, but with much smaller jaws." As *tsari* also means "to protect," we get in "iguana" the "protecting animal." Precisely the same correlation is found in Mande territory, where we have Bambara, Malinke *kana* "iguana, to protect," and *sɔ*, from which we get *siba* "the barbed one," also means "to place, set," in Dyula *sigi* "to set, place, guard, protect," and we also have in Malinke dialects *si, sihi*, so that the word, although no doubt of a different origin, completely coincides with "hair, grass." Thus it becomes clear that among the Mandes the iguana was considered a protecting animal, a *tana*, and that etymologically *siba* was related to all the *si* words so far discussed. Not only have we Nahuatl *sipatl* "an animal like the iguana," *sipewa*, like Malinke *sibo* "to flay," but also *šiwitl* "grass," which is similarly related to the Mande "grass" words, and we also have Maya *šiu* "grass." For "hair" we have not only Malinke *sir*, but also *sin*, as in *sintan* "hairless," and to this are related the various Mayan and the Nahuatl "hair" words. The remaining African connotations "none, all" actually occur in the Mayan glyphs, as we shall soon see.

In Africa the crocodile is closely related to the growth of maize. Thus, for

example, in the Mande Bamboko a virgin is thrown into the river as an offering to the crocodile just when the maize begins to grow, which again shows the supposed etymological connection in the Mande mind between "crocodile" and "maize." In Nahuatl and the Mayan languages *si-*, *ši-* has similarly been employed to denominate "maize," but here the transformation is more complex and can be studied in its progress.

There is abundant evidence that both Arabic *'abyaḍ* and *masa*, *maka* for "maize" reached Mexico. The first, recorded in Brazil as *abati*, *abatim*, in the West Indies as *awasí*, is preserved in Pokonchi *abiš*, Pokoman *awiš*, where *ab*, *aw* was confused with the native *au* "to sow" and so the word developed the meaning "a field of maize" instead of "maize," Jacalteca, Chuje *awal* "maize field." That Nahuatl possessed a similar form is to be concluded from Yupiltepeque *pači*, Cahita *bače*, Seri *bate* "maize." More commonly, as in the Mayan languages, a division *aw-iš*, *aw-išim* has taken place, leading to Pokonchi *iš*, *išim* "to free the kernels of the maize," Maya *išim*, *šim*, Huasteca *isis* "maize," and, through a confusion with the "hair" words, which themselves have led to "grass" and "plant," we get Mam *šil* "hair," Maya *šiž*, *šil* "to stand up (of the hair)," while Nahuatl has *šilotl* "the milky state of the maize cob," which in *šilotsonṭli* "the silk in the ear of the maize" clearly points to the silky form of the ear. That there is really here a confusion of "hair" and "maize" is shown by Zapotec *wiči* "hair," *weči* "thorn," *weči*, *wiči*, *ači*, *iči* "iguana," Huasteca *witsim* "beard," Nahuatl *witstli* "thorn," where the ancient *abiš* "maize" is preserved but with the changed meanings. In Nahuatl we have *šima* "to shave" and *sentli*, *sintli* "maize," where *sin* for *sim* is also recorded in Aguacateca and Ixil *išin* "grains of maize." Nahuatl *sintli* has passed into Opata *šünüt*, *hunu*, *šunut*, *sunut*, Pima *hune*, *hunu*, *nun*, Tarahumar *sunu*, Tepehuan *hune*, Eudeve *hunut*, Papago *huna*, Comanche *hanib*, Tesuque *kuhn*, *kuhn*, while in Cora it has been corrupted to *sitati*, further deteriorating to Cocoma *sertits*, *der-tits*, Cuchan *terdič*, Mohave *terdiča*. Thus it appears that maize traveled from Mexico to the north. The Mayan *iš* is also found in Tlapaneco *iči*, Subiaba *iši*, Move, Penonomeño *hi*, Pueblo de Cachi *ikwe*, Bribri, Boruca *ikvo*, Estrella *ikwu*, Chimila *aahkwa*, Muoi *heu*, Murire *eu*, Guatuso Rama *ai*, Miskito *aya*, where the successive deteriorations point to a similar distribution southward from Mayan territory.

Arabic *masa*, *maka* is found in Ayook *mok*, Zoque *mok*, Olut *moküo*, Taxis-tepec *bok*, Sagula *mohk*, Tapachueteco *mak*, *nokpu*, Sumo *hamak*, of which deterioration, from the loss of the final consonant, are found, to the north, in Huasteca *em* "ear of maize," while to the south we have Sumo, Rio Murra,

Ulua *am*, Opatoro, Lenca, Similaton *ama*, Chilanga *ima*, Cacaopera, Xinca, Matagalpa, Simacatan, Yupiltepeque *aima*, Chiquimulilla *eyma*, Mangué *nama*, *nahma*, Chiapaneco *nama*, Mazateco *name*, all of which proceed from the Mixe-Zoque original. We have also evidence of the presence of this root in Nahuatl and the Mayan languages, but here the confusion with "hair" has eliminated the original meaning. We have Nahuatl *imaštli* "beard," borrowed to the north in Cora *mueisiti*, Cahita *himsi*, Eudeve *hinsi*, while in the Mayan languages we have Kekchi *mač*, Maya *meeš* "beard," *meškay* "octopus," *meškin* "sunbeams," Kiche *meč* "barbed fish."

XI.

The Crocodile.

THE Mexican first-day glyph is called *sipatli* or *sipaktli*, and is variously translated as "snake head, swordfish, crocodile,"¹ of which the first is certainly a mistake, as already pointed out by Seler, since the glyph is distinctly a conventionalized head of a crocodile or shark, in any case of a barbed water animal. We have several representations of a crocodile in Mexican picture writing, but generally the lower jaw is wanting. The full, unconventional crocodile may be seen in Codex Fejérváry-Mayer in the picture of a plant growing from its mouth, while it itself is placed in the water (Fig. 43), and in Codex Vaticanus No. 3773 (Fig. 170), where he is in the act of carrying away a man. In Codex Borgia the crocodile is represented without the lower jaw and with barbs over the body and on the head, legs, and tail, while the body is reticulated with irregular triangles and squares with a small circle in each (Figs. 171a-c). In a large picture in Codex Nuttall a container with water has in it a fish, a snake, three kinds of shells and a crocodile with barbs over the upper part of the body. Here the uniform brown color of the skin does not allow to discern any triangular or square patches, but the circles are prominent by being drawn in a lighter color (Fig. 14). Occasionally, *sipatli* is distinctly a shark, as in Codex Fejérváry-Mayer, where he bites off the foot of the God *Šočipilli* (Fig. 172), while in Codex Vaticanus No. 3773 *Tlalok* is similarly standing on a shark-like animal, from whose head rises a maize stalk (Fig. 173). A more complete shark may be found in the same Codex, where *Šočipilli*, as in Codex Fejérváry-Mayer, is connected with it (Fig. 174).

The *sipatli*, from whom a plant grows or into whom Death or a dead person descends, or as the representation of the reproductive power, or, ultimately, as earth in general, is more often conventionalized as a barbed or merely toothed upper jaw, and as such it is most common as the first-day glyph. In Codex Nuttall there are two trees, one of them double, that grow out of the head of *sipatli*. It would be more correct to say that the tree grows through the head, since the roots are placed below it. In one of these (Fig. 175a) a few teeth and a double excrescence above the nose remind one of the "barbed" form of the animal. The eye, as invariably in the glyphs, has a flap above it, and is here painted blue. In the other (Fig. 175b) we observe

¹ Seler, *Codex Borgia*, Berlin, 1904, vol. I, p. 76 ff.

the same double excrescence, but of the teeth there is barely a trace. In the glyphs the nose is generally simple, but one has something like feelers; the eye flap is variously shaped; the teeth, from three to six, are sharply drawn, and in some cases barbs, from one to six, appear also on the outer surface (Figs. 176a-l). In one notable case (Fig. 176b) there are above the conventionalized gum four small circles, such as we have found in the full crocodile form of Codex Nuttall. In Codex Fejérváry-Mayer we also have a double plant growing out of a *sipatli* head (Fig. 177a), which is of the usual glyph kind, without barbs on the back, but with the nose usually ending in a sharp point or hook (Figs. 178a-f). Two other plants and a dead person arise from a double conventionalized *sipatli*, in the form of a vase, where the claws, sharp teeth, eye flaps, and nose whirl are clearly defined (Figs. 179a-c). In Codex Nuttall this double *sipatli* occurs only once (Fig. 180). In the *Tonalamatl* of the Aubin Collection and in the Codex Telleriano-Remensis the *sipatli* glyph is represented with very long and closely set barbs on the back, and the excrescence on the nose seems to be a *tekpatl* "obsidian knife" (Figs. 181a-h).

In Codex Vaticanus No. 3773 the conventionalized double *sipatli* represents the earth into which Death descends or of which *Miktlantekutli* is lord (Figs. 182a, b). Here a few bars and a large number of small circles correspond to the reticulated body of the complete animal, and *Miktlantekutli* himself has a series of circular patches, while on his arms and legs appear two circles separated by two bars to give expression to the same connection with the crocodile. On two containers of mummy packs, attached to the same picture, the bars, circular spots, and dots are prominent. The same bars and spots appear on the double *sipatli* of the same page, when not connected with Death, but with *Sinteotl*, the God of Maize, and *Makwil Kwauhtli*. There are again bars and circles on the double *sipatli* related to the Gods of Death and of Earth (Figs. 183a, b), and these are more or less conventionalized in a series of nine double *sipatlis* occurring on the same page (Fig. 184). In one picture the conventional *sipatli* almost resembles a caterpillar, but the strongly marked bars and the eye flap, as well as the superposition of Death, make it certain that we are dealing with *sipatli* (Fig. 185). In another, representing the descent into earth, the *sipatli* is transformed into a series of steps, and only the heavy barbed stripes and the claw show that we are still within the representation of the crocodile (Fig. 186a). A simplified form of this is given in the same Codex (Fig. 186b).

Precisely the same step-like descent is represented in Codex Borgia, but

here (Figs. 187a, b) the reticulation with the circles is retained. This reticulation or bar formation with circles is universal here. We find it in the double *sipatli* in connection with Death (Figs. 183, 188), and with the Morning Star represented as Death (Fig. 189). It also occurs when *sipatli* is connected with *Tonakatekutli*, the God of Sustenance and Procreation, and in the latter case, which represents the human pair under a coverlet, the coverlet as well as the *sipatli* has the reticulation (or bars) with the circles (Fig. 190). This double form also represents the earth from which maize springs (Fig. 191), and in lengthened form stands for the earth (Figs. 192a, b), or bent upward represents a cave in the mountain (Fig. 193), in all of which cases the reticulation with the circle is distinctly carried out. The House of Descent, in Codex Borgia, as in the Vaticanus, is also represented by a broken plant growing out of the head of the *sipatli*, and here not only the latter, but also the plant bears the bars and circles, which are particularly clear in the Borgia (Fig. 194), where the glyph itself nearly always shows evidence of such a reticulation.

In Codex Vaticanus No. 3773 certain divinities, persons, and objects are marked as belonging to the *sipatli* cult, even when the *sipatli* head form is absent. Such is the case with *Šočipilli*, the God of Flowers, who bears the sign //•//, that is, the extreme reduction of the *sipatli* glyph on his arms and legs, or on the body or face, if there is no room on the crouching form (Fig. 174). The same sign is found on his female counterpart, *Šočiketsal* (Fig. 195). *Šočipilli* is usually confused with *Sinteotl*, the God of the Maize, since this plant is the chief product of the earth *sipatli*, hence *Sinteotl*, too, bears the *sipatli* glyph (Fig. 196), even as it appears on *Mayawel* and the agave plant (Fig. 197). *Tlasolteotl*, the old Earth Goddess, naturally belongs in the same category (Fig. 198), as does the Rain God, *Tlalok*, who fructifies the earth (Fig. 170), *Tonakatekutli*, Lord of Sustenance (Fig. 199), and *Miktlantekutli*, the Lord of Death that recedes into earth (Fig. 182). The first human pair, which we have found connected with *sipatli*, the giver of life, also occurs with the reduced *sipatli* glyph (Fig. 200). The priest officiating at a sacrifice, who is generally represented with a black body, here, in Codex Vaticanus No. 3773, has the *sipatli* glyph upon his body (Fig. 201), from which it must be assumed that the *sipatli* cult is in some way connected with a black body. The most interesting use of the reduced *sipatli* glyph occurs on vases into which the sacrifice is made or from which the plants arise that otherwise are connected with the *sipatli* cult (Figs. 202a-d). In Codex Borgia such vases are generally marked in the same

way (Figs. 203a-d), but the original reticulation is more prominent. In Codex Fejérváry-Mayer these vases have a circle or a bar (Figs. 204a, b).

We can schematize the Mexican glyph *sipatli* as  consisting of the eye, four round spots of the body, which in the Codex Vaticanus appear within the skin reticulation, and a set of teeth. Besides, we have the shorthand //o//, found on the limbs of various divinities and priests, which represents the spots and the reticulation, though it may be that the writer had also in mind the teeth. In the few Maya manuscripts that have come down to us the crocodile is scarcely represented, but the glyph which corresponds to the Nahuatl *sipatli* bears abundant witness to the original importance of the crocodile worship, although otherwise considerably reduced or disguised in practice. In the Mayan manuscripts we generally find the first day represented by  (Fig. 205a). In the inscriptions we have the monumental form of the same type (Fig. 205b). If we remove the cartouche of the manuscript form and the two cartouches of the monumental form, we get the schematic , which at a glance is recognized as identical with *sipatli* . Tzendal *moš*, Cakchiquel *imoš*, Maya *imiš*, by which this glyph is known, are closely related to Nahuatl *imaštli* "beard," which has already been discussed, and brings us back to the meaning "barbed animal," represented in Nahuatl *sipatli*.

The crocodile has in Maya undergone curious transformations. Although the animal was so important in the Maya worship as to be represented on a Copan altar (Fig. 206) and in the walls of temples (Fig. 207), it is not otherwise recorded. Even in the Copan altar the crocodile, with a schematic jaw of teeth and bifurcated tail, looks more like a lizard. As the crocodile is common in Yucatan, it cannot be an unfamiliarity with the animal that caused the scarcity, but there must be some fundamental misunderstanding which led to the transference of the crocodile to an armadillo, as which it generally appears in the manuscripts. Fortunately the philological material helps us to solve the difficulty. Nahuatl *sipaktli* appears in Huasteca as *sipak*, but the meaning is restricted to "swordfish," as which we have found the foreign animal confused even in Mexican sources. In Maya the swordfish is called *bač*, while the armadillo in most Mayan languages appears as *iboy* and in Huasteca as *batauh*, but in Maya as *ibač*, so that in their phonetic accommodation we have in Maya almost a coincidence of "crocodile" and "armadillo." Another Mayan form for armadillo is *weč*, where the word has accommodated itself to *weč* "leprosy," and where apparently the cross-

hatches and nine bands of the armadillo have suggested the leprous spots, or *vice versa*.

I have already pointed out the fact that in Codex Dresden, pp. 4 and 5 (Figs. 144), the crocodile and armadillo are merged into one, but since the face of the Negro in Codex Tro-Cortesianus is given within a deer (Fig. 208), the same should be expected here. If we turn to that deer picture, we shall observe that one foreleg is not that of a deer but of a clawed animal, so that a suggestion of a confusion exists even here. In Codex Tro-Cortesianus the story of the deer begins on p. 28 (Fig. 209). In the middle picture the deer is in his natural form. Above him we have a peccary, but so shaped as to parallel the deer, while at the bottom we have the deer with truncated muzzle and fang, so as to represent the transition from a deer to a peccary. On the next page (Fig. 210) the middle picture is again that of the normal deer, which at the bottom is stretched out, so that it, too, forms a transition to the crocodile-armadillo at the top. The latter has the head of the deer, as indicated by the heavy lower jaw and the ears, the scaly covering of the armadillo, but the legs and tail of the crocodile. Just as the deer, *mani*, meant "nothing" to the Mayas,¹ so the foreign *mani* was welded with the foreign *sipatl* into a nondescript beast, to represent the whole of the hippopotamus-crocodile worship as brought over by the Negroes.

Another redaction of the "deer" story is found in the upper fourth part which begins on p. 87. For the present we are interested only in the direct relation to the crocodile, which begins on p. 96. Here we have the turkey with the honeycomb. Maya *ahau-kuts* relates the turkey phonetically with the Nahuatl *koskakwauhtli*, that is, with *tsopilotl*,² which itself is related to the Bee God. Next we have the peccary, as before, hanging from a tree. The peccary has the body of the deer, but a long nose and a serrated back, where the relation to the *sipaktli* is thus indicated (Fig. 211). On the next page some divinity with a hump on the nose preceded by another with a hump on his nose and a fire stick is again found in a boat, preceded by another boat with the deer in it, apparently to indicate the *mani* worship, as brought over the ocean (Fig. 212). On p. 98 we have the deer attached to the tree, to represent the plum tree,³ the turkey similarly attached, the Negro merchant who brought the worship over, the deer-crocodile-armadillo, with the honeycomb glyph above (Fig. 213). On p. 99 we have the Fire God with the turkey preceded by the deer-crocodile, plainly indicated by the patches and dots on the body, and by the Negro. Here the deer-crocodile is a fire-beast (Fig. 214). On p. 100 the Old God with the water-eye overcomes the god

¹ See p. 96.

² See p. 100.

³ See p. 90 f.

and goddess with the hump on the nose (Fig. 215). On pp. 101 and 102 the Negro and the Fire God worship over the fire, and the deer-crocodile and the Old God carry off the vanquished god with the hump on his nose, and at last the turkey picks out his eye (Figs. 216, 217), and p. 103 contains a summary of the whole (Fig. 218).

In Codex Dresden we have two pictures of the Descent (Fig. 219),¹ which is made noticeable by the step-like formation, as in the corresponding Mexican representation, the reticulated top, and, in one case, by the serrated prop. Both have on the prop the sign of Death, with which the Descent is connected. In front of one we have the bald-headed Old God, in front of the other a corresponding goddess, while on the top step of the first we have the *tsopilotl*-Negro,² who is connected with the God of the Bees. On p. 20 a divinity is seated on a reticulated strip, which, as the preceding picture teaches, is intended for *sipatli*-earth (Fig. 220). In the four pages dealing with the celebration of the epagomenal days we have in the central part the same Descent, but without the steps, which on p. 27 are transferred to the top, while below it we have, instead of the reticulation, the sign for fire and the two bars for *sipatli* (Fig. 221). On p. 33 we have the same Descent, and the picture is blurred and does not admit of close analysis but seems to have had no marking within the bottle-shaped formation, as appears from the same picture on p. 35 (Fig. 222). On p. 40 (Fig. 223) we have an exceedingly interesting sequence of three pictures. The Old God is seated on a vase-like transformation of *sipatli*, the bottom representing the unmistakable double crocodile. In the next picture he is seated on a fish-like transformation of *sipatli*, where the dots and hooked staves show the Mayan sign *imiš*, and that it is in the water is indicated by the shells above it. In the third the God is in a boat, so that the whole illustrates his transference across the water. On p. 68 the Old God is situated on two shorthand representations of the Descent indicated by the oval *sipatli* form as above and the bars and Death sign within (Fig. 224). In a near-by picture he and a goddess are over a strip of reticulated *sipatli*. Two pictures on p. 69 represent another redaction of the first two pictures in a vastly more significant connection (Fig. 225). In the first of this new series the vase-like formation is distinctly a *sipatli*, and in the next the shorthand *sipatli* is preceded by three additional shells. Here the God traveling across the water carries with him the turkey with a Negro eye, and that we are dealing here with a Negro god is illustrated by the same Old God as a Black God, with the merchant's

¹ Cf. p. 122.

² See p. 125.

spear in his hand, seated in the jaws of a snake, which precedes the other two pictures.

In Codex Tro-Cortesianus we have the same development of *sipatli*, but the relation to the Bee God is more prominent. On pp. 66 and 67 (Fig. 226), where we have the story of the *tsopilotl*-Negro, we find him once seated on a conventionalized *sipatli* with shells, as in Codex Dresden. Once he is seated within the Descent, but the picture is blurred, and here the bottle-shaped *sipatli* is topped by a beehive. In the next picture he is seated above this Descent. The Death God is given in a series of such Descents on pp. 101-105, where instead of the reticulation we have bent lines, a very common form of conventionalized *sipatli* (Fig. 227). On p. 105 the Death God is represented as the Fire God and here the Descent has also the signs of beehive on the prop (Fig. 228). This is still better given on p. 26 (Fig. 229), where the Fire God is seated on the steps, while the Negro faces him, apparently in adoration. It will be observed that here and everywhere else where he is given the Negro wears the conventionalized *sipatli* sign in his fillet, even as the other *sipatli* signs, $\circ//\circ$ and $//\circ//$, are invariably found on parts of the body not painted black.

Even when the Negro drills fire, the sparks rise in the form of the *sipatli* sign (Fig. 230). From the preceding examples it follows that we should expect the commonest use of the bottle-shaped *sipatli* in connection with the Bee God, and such is really the case (Fig. 231).

Before discussing the connection of Death with the *sipatli* sign it is necessary to trace the origin of the Maya "death" words. We have Maya *kimi* "the sixth day," *kimil* "sickness, death," *kimen* "dead person," *kimaon* "thing of little account," and yet the contrary *kimak* "happy, contented, agreeable." In the other Mayan languages we have Pokonchi *kamsa*, *kansah*, *kantsam* "to kill," *kimik* "to die, death," but *k'em* "woven stuff," which we shall soon see related to the "death" words. Similarly we have Kekchi *kam* "to die, wither," *kamsi* "to kill," and *kem* "woven stuff," *kemonel* "weaver," Uspanteca *kamik* "to die," *kiem* "woven stuff," Ixil *kam* "to die," *kem* "to weave," Tzutuhil *uk'im*, Tzotzil *šičam* "to die," and similarly in the other Mayan languages. Huasteca has *tsemel* "to die," *tsamnek* "dead," and *tsem tuhub* "idol," that is, "tombstone." In Nahuatl we have *kemi* "to dress," *kemitl* "cover, dress," *kimiloa* "to put in a shroud, dress, cover," *kimili* "package of clothes or laundry, a set of twenty," *tlakemitl* "dress, cover." It is clear from the correlation of Nahuatl and the Mayan languages that the original meaning is either "dress" or "a package of clothes," from which develops "to put in a shroud, bury," hence in Maya "to die," or *vice versa*.

The correlation is still more startling since Maya *kimi* applies to "ten" or "twenty," just like Nahuatl *kimili* "a package of twenty objects."

In the Mande language the double connotation of the same root is found scattered. Thus we have Khasonke *kamari* "to collect, heap up," *d'amana* "country, region," Vai *kamba* "grave," *kumben* "whole," Mende *kāmba* "grave, grove, tomb," *kāma* "place of assembly, feast," *kōme* "meeting, assembly, to surround, assemble," Dyula *kumbe* "to assemble," Malinke *d'amā* "assembly," *d'amani* "country," hence *(la)d'e* "to assemble," Bambara *d'ama* "assembly, reunion, heap, travel far," hence *d'amaso*, *d'amafu* "church," *d'amani* "province," *d'e* "reunion, contract, right." One sees at a glance that in all these Mande words we have Arabic *ḡumma* "cluster, medley," *ḡum'ah* "state of union, congregation, friendship, sociableness, Friday, week," *ḡamī* "collection." The transference to the meaning "grave" is from "place of assembly" to "grove," as in Mende, hence "burial place," but this has already taken place in Arabic, for *ḡum'ah* also means "ceremony for the dead." That the same root led in Africa to "ten," is shown by Hausa *goma* "ten," while in the Mande languages Kono *kuma* "and" is used for "ten," since it originally meant "heap"; thus *tañ ekuma dondo* "ten heap (and) one," but *kuma fela* "heap two" for "twelve" and so on. In the other Mande languages this *kuma* has been reduced to Soso *nun*, Bambara *nī*, as in Soso *fu nun keren*, Bambara *tam nī vele* "eleven," even as to Vai *kumma* "on, upon," *kun* "head," from another Arabic root, though confused with the "assemble" words, Soso *khumma* "over, to cover," Malinke *kūñ* "head" we get Gbese, Toma, Mono *nu* "head."

The Nahuatl shorthand $\circ//\circ$ or $//\circ//$ is still further reduced in Maya to $\circ\dots\dots$, as which it appears on the leggings and wristbands of *Čak* and many other earth divinities. The chief *sipatli* divinity is *Kimi*, Death, on whom we get the signs $\text{☉} \text{☉} \text{☉}$ in manuscripts over the whole leg or on the arms and across the breast, and as $\circ//\circ$ in the inscriptions. For *Čak* we find such markings in Codex Dresden on pp. 29, 31, 32, 65, etc., while *Kimi* is thus marked on pp. 13, 15, 45, etc. (Fig. 233). In Codex Tro-Cortesianus the same may be illustrated on pp. 48, 83, etc. (Fig. 232). The most interesting development of *Kimi* is that which refers to the numbers "ten" and "twenty," which we have already in Africa. For the inscriptional form of "ten" we have simply the fleshless jaw of *Kimi* (Fig. 234). For the manuscript "twenty" we have the moon as a water jar with a shell,¹ but as this may be either "zero" or the lunar month, the whole is transformed by

¹ See p. 54.

the addition of the *sipatli* sign within the shell, so as to represent *kimi*, that is, "completion, twenty" (Figs. 134, 135).

P.S. Only after this chapter was written did I study the Arabic *ġamā'a* in its full extent in Africa, more especially in Bantu, as may be found in the Introduction, and there it will be seen that "death," "ten," "to wrap in clothes" are all universal throughout Africa under Arabic influence. Thus the representation of "ten" as "death" in America is due to the same finger language of the trader. It would be hard to find a better corroboration of the underlying Arabic influence in America.

XII.

The Thirteen Lords of the Day.

IN the Pyramid Texts frequent mention is made of groups of nine gods,¹ of whom the accompanying picture (Fig. 235) is a good representation. The Arabs carried this concept of nine attendants (of the night) to the Western Sudan, where we find it recorded among the Mosi:

The Mosi have the idea of the One God. One finds among them two beliefs: according to one God is the Sun; according to the other, he is a material being which they cannot represent. They have borrowed from the Moslems the idea that God has created everything, even the Sun, which is only fire. This fire, if it were left by God constantly at liberty, would consume everything, so he built a house where nine of his children (*malek-damba*,—this is the Arabic word for “angel”—*malakum*) keep it shut up at night, thus producing night. This god is well materialized, since he has a wife (*tinga*, which also means earth) and a child, and eats and drinks (but not *dolo*, which is reserved for his followers). This infinite being, all-powerful *Naba*, is obviously surrounded by a considerable number of pages or good spirits, but there are also others, bad ones, who run away from him (*djidamba*, in Arabic *djinun*) and are the cause of all bad acts. We find in all this exposition a reduced and naïve Moslem theology.²

In America we have the same Nine Lords of the Night, frequently recorded in Mexico. Here, however, a similar group of thirteen gods was created, as the result of the thirteen-day months, which arose from the introduction of the twenty-eight lunar mansions, each of thirteen days' duration. As “twenty” was a much more convenient number than either “thirteen” or “thirty,” the *tonalamatl* arrangement arose, while the twenty-day months were still coupled with the number “thirteen,” to produce the religious or astrological period of 260 days, at variance with the solar or lunar year. The Nine Lords of the Night led to the Thirteen Lords of the Day, which either represented the thirteen hours of the day, the thirteen heavens, or, possibly, the thirteen months. We shall now study their influence upon native thought.

Thévet³ has left us an interesting account of the thirteen gods of the Mexican heavens, from which it follows that

¹ Budge, *op. cit.*, vol. I, p. 85 ff.

² E. Ruelle, *Notes anthropologiques, ethnographiques et sociologiques sur quelques populations noires du 2e territoire militaire de l'Afrique Occidentale Française*, in *L'Anthropologie*, vol. XV, p. 689 f.

³ Seler, *Codex Borgia*, vol. II, p. 292 f.

- I. In the first heaven there was the God *Šiuhtekutli*, "god of years."
- II. In the second, *Tlaltekutli*, "the goddess of the earth."
- III. In the third, *Čalčiuhkli*, "house of a goddess."
- IV. In the fourth, *Tonatiuh*, "which is the sun."
- V. In the fifth "five gods, each of a different color," hence called *tonaleke*.
- VI. In the sixth, *Miktlantekutli*, "which is the god of hell."
- VII. In the seventh, *Tonakatekutli* and *Tonakasiwatli*, "two gods."
- VIII. In the eighth, *Tlalokantekutli*, "god of the earth."
- IX. In the ninth, *Ketsalkowatl*, "one of the principal idols."
- X. In the tenth, *Teskatlipoka*, "also a principal idol."
- XI. In the eleventh, *Yowaltekutli*, "god of the night or of darkness."
- XII. In the twelfth, *Tlawiskalpantekutli*, "god of the daybreak."
- XIII. In the thirteenth, *Ometekutli*, "two gods" and a goddess *Omesiwatl*, "two goddesses."

How correct Thévet was in rendering the essence of the belief is shown by the overwhelming frequency with which these thirteen gods are referred to in Mexican and Mayan documents and monuments. In Codex Borbonicus they are all preceded by a hook near the mouth, to indicate that "they speak," that is, are the regents of the hours or heavens. In the *Tonalamatl* of the Aubin Collection they are preceded by a similar uncolored hook formation. In Cogolludo¹ there is a representation of a *qatun* wheel with thirteen heads in a circle about a tree, and each head is marked on the cheek by a scratch (Fig. 236). In the inscriptional face signs for the first thirteen numbers we have a similar scratch on most of the faces, in the form of , to represent the hook in front of each face in the Codex Borbonicus. It will now be shown that these thirteen numbers correspond precisely to the Thirteen Lords of the Day.

In number "nine" (Figs. 237a, b, 238) the scratch is not visible because a series of circular spots take its place. Most of the faces show a beard and, as in illustrations 1, 3, 5, 7, 10, the lips are prolonged, while on his brow there is a dependent adornment, which in illustration 11 consists of a rod at the end of which there is something fluttering. The picture of the ninth-hour god shows the usual long nose and the head-dress is of the type of the Huastecan representation of *Ketsalkowatl's* hat, as in Codex Vaticanus No. 3738, fol. 7v (Fig. 239) or Codex Magliabecchiano, p. 89 (Fig. 240), that is, the *oselokopilli* or conical hat of jaguar skin, which is recognizable by its

¹ *Historia de Yucathan*, Madrid, 1688.

spotted condition. On p. 61 of this Codex (Fig. 68) we have an extension of a rod, from the end of which hangs a chain with a humming bird at the end. This rod with the bird is conventionalized in illustration 11 of number "nine," while the dependent adornment in all similarly refers to this rod. There being no *kopilli* on the heads of the figures, the *oselotl* spots are transferred to the face. In the *Tonalamatl* of the Aubin Collection (Fig. 241) *Ketsalkowatl* is directly associated with the *oselotl*. He is similarly in Codex Borbonicus (Fig. 243) and Codex Telleriano-Remensis (Fig. 242).

For the sixth lord we have in Codex Borbonicus distinctly *Miktlantekutli* (Fig. 242), while in the *Tonalamatl* the divinity is hard to define:

The sixth of the thirteen lords presents some new features, at least in our manuscript. We see a face which displays yellow and black cross bands, the distinctive facial traits of *Teskatlipoka*, but is otherwise equipped with the symbols of death, the neck shield (*kweskočtečimalli*), the tail feather of the red Arara, and the down feathery balls, all of which we shall again meet in exactly the same forms with the eleventh of the thirteen lords. We should feel inclined to describe this figure as the *Warrior's Death*, the *Teoyamiki* so to say. Only the real Death God, *Miktlantekutli*, is distinguished by precisely the same marks on sheet 10 of our manuscript, where he is figured facing the Sun God as Ruler of the tenth week.

In this place the Codex Borbonicus shows the Death God alone—sometimes as *Miktlantekutli*, as the Dark Night God, with the royal fillet on his head, sometimes as a skeleton, like the pictures given in this Codex for the fifth of the nine lords. Hence the sixth of the thirteen lords is also identified by *Del Paso y Troncoso* with *Miktlantekutli*. This representation, however, offers no essential difference as compared with our manuscript, the same personage being obviously intended. Instead of the significative picture in our manuscript we have merely a colourless one, just as in the second place of the thirteen lords our manuscript also presented nothing but the Death God instead of the more expressive picture in the Codex Borbonicus.¹

In the two of the recorded cases of the face sign for "six" (Fig. 244) we have an old god with a water-eye within, which is the sign of "death." "Sixteen" (Fig. 244), which is composed of 10 + 6, has the same figure, except for the usual jaw-bone, which stands for "death" and "ten." It is clear that the variation from the real death god was made necessary in "six," to keep it from being confused with "sixteen," and this was done by giving instead the old god, who may have been *Ketsalkowatl*, with whom he is frequently given as a hybrid form, or *Tlalok*, whose place he takes in the center of the Tableau, or *Teskatlipoka*, who similarly takes the place of *Tlalok*. The interesting thing is that the presence of such a transformation in the *Tonala-*

¹ Seler, *The Tonalamatl of the Aubin Collection*, Berlin, London, 1900-1901, p. 28.

matl, that is, in a Mexican codex, speaks in favor of the knowledge of the number values for the lords even in Mexico.

A similar death god, whom Thévet calls "the god of darkness," is represented in Codex Borbonicus, but without the jaw-bone, and with the head adornment like that of the sixth lord in the *Tonalamatl*, for number "eleven." A similar head with different tatoo lines and slight change in the head gear is represented in the *Tonalamatl*. Here the one recorded inscrip-tional figure has a somewhat elaborate hair-dress, and the jaw-bone is repre-sented, but carefully differentiated from the "ten" representation (Fig. 245).

For "thirteen" Codex Borbonicus depicts a death goddess with fleshless jaws. It is hard to determine what the objects that stick in her hair are, but in the corresponding death head in the *Tonalamatl* they look like obsidian knives, though Seler takes them to be pieces of colored paper. Thévet's *Ometekutli* does not seem to fit the case, and Seler identifies the form with *Ilamatekutli*, the old goddess. However this may be, the recorded inscrip-tional "thirteen" signs only in one case represent an old god or goddess with a fleshless jaw, while in the other cases we have merely the fangs and the water-eye of an old god, with some kind of elaborate hair adornment (Figs. 246, 247).

In the Mexican pictures of the tenth lord we have *Teskatlipoka*, "the Smoking Mirror," which represents the sun going down to the realm of the dead, and is given with a smoking mirror on his brow. In our Mayan repre-sentations we have again a fleshless jaw, which becomes the characteristic for "ten," but in some this is absent, while the smoking mirror on the fore-head makes the identification with *Teskatlipoka* a certainty (Figs. 248, 249).

In Codex Borbonicus the second lord is represented by a frog-like *sipatli* swallowing a *tekipatl*, while in the *Tonalamatl* we have a figure in every par-ticular resembling that of the thirteenth lord, that is, "death" (Fig. 250). The first would mean "the moon entering below the earth," hence in reality represents death, which is also expressed by the brown collar about *sipatli's* neck, which stands for darkness. Thévet names the corresponding god *Tlaltekutli* "goddess of the earth," which is another name for *Itspapalotl*. Whatever the real representation of "two" may be, it is clear that we are dealing with an *istli* in front of a face, and something resembling *istlis* in the hair. In the two figures for "two" (Fig. 251) we have a stone-like object in front of the mouth, and something of the same shape in the hair, so that the derivation of the Mayan from the Mexican form is obvious.

For the third lord Codex Borbonicus and the *Tonalamatl* have the Water Goddess *Čalčiuhtlikwe* (Fig. 252). In both she has a towering round head-gear, while generally she is adorned with the *čalčiwitl* or blue stone, which, as her name indicates, is the specific representation of flowing water. In both Mayan representations of number "three" we have the towering round head-gear, and in one of these we see the *čalčiwitl* on her brow (Fig. 253).

The first lord, both of the day and night, is *Šiuhtekutli*. Usually he can be recognized by the tatoo stripe across his eye (Fig. 254), but in the *Tonalamatl* he has in addition a crown or head-covering with two or three prominent front flaps (Fig. 255b). These appear in all the figures for "one" as a series of two or three circles (Fig. 256).

The seventh lord, according to Thévet, is *Tonakatekutli*, the Lord of Sustenance, while Seler¹ identifies him with *Sinteotl*, the God of Maize, but the two are identical.² Unfortunately we have but one inscriptional reference to "seven" (Fig. 257) from which to form conclusions. It will be seen that the figure is represented as wearing some kind of crown with a long neck piece. We have in Codex Vaticanus No. 3738, fol. 12v, the glyph of *Tonakatekutli* represented by a crown filled with ears of maize (Fig. 258), which in Codex Borbonicus and the *Tonalamatl* is represented by a crenelated fillet, and it is precisely such a crown that we recognized in the Mayan face sign for "seven."

Number "eight" is in Codex Borbonicus and the *Tonalamatl* represented by *Tlalok* with the lower jaw wanting, the upper jaw with its jagged teeth, above it the water-eye, and for the hair a bunch of leaf-like forms fluttering in all directions (Fig. 259). In the Mayan glyphs the bunch is well represented in illustration 5, less well in 4, and still more varyingly in the others. In illustration 2 we have the jagged tooth which belongs to *Tlalok* (Fig. 260).

In number "four" of the Mayan face sign we expect to get *Tonatiuh*, the God of the Sun, who in Codex Borbonicus and the *Tonalamatl* (Figs. 261a, b) is represented by a face within the sun glyph. In the Mayan glyph (Fig. 262), illustration 2, we see traces of the "sun" in the region of the ear, while the rest represents the fang-toothed god with the water-eye, that is, *Tlalok*, because the two, *Tlalok* and *Tonatiuh*, are constantly confused.

Number "twelve" of the Mexican codices is *Tlawiskalpantekutli*, the God of the Dawn, the Star Venus (Fig. 263), which in Mayan codices is

¹ Seler, *The Tonalamatl of the Aubin Collection*, p. 28 f.

² Seler, *Codex Borgia*, vol. II, p. 294.

represented by the quincunx (Figs. 264, 303). In the Mayan glyph we have the "five" *tun* sign represented in illustration 1 (Fig. 265).

The fifth lord, according to Thévet, represents *tonaleke*, five gods of different colors, whom Seler identifies with the five *Tlasolteotls*, the Goddesses of Dirt (Fig. 266). In the Mayan "five" face signs, the old goddess is topped by *tun*, the sign for "heap," that is, "five" (Fig. 267). The usual etymology for *Tlasolteotl*, who is really the goddess of love, is wrong, as can be shown by a study of the root from which it is derived. We have here a variety of the "prick" word discussed before.¹ Huasteca *tsob-* "to prick" leads to *tsobnal* "to pander," unquestionably through the transference of the first to "to cohabit," as is vulgarly the case with similar changes of connotation in European languages. "To have fleshly intercourse" leads to "to sin, be idolatrous," as in Huasteca *tsobel*, *tsabel* "to be idolatrous," *tsabellom* "idolatrous." We also have, from the shorter *tso*, the form *tsolelom-inik* "sinner," *tsolents* "idol." This lengthened *tsol*, by the side of *tso*, is found in Nahuatl, where *so* "to prick, bleed," leads to *soa*, *sowa* "to pierce, open," *soso* "to string," *solli*, *sulli* "old, decrepit," that is, "pierced through and through," *tlasolli*, *tlasulli* "adultery, vice, dirt," but this root has also the more refined meaning of "love" in *tlasotli* "precious, dear, estimable," *tsolatla* "to love," by the side of *tlasotl* "bled, pricked, strung up," where the meaning of penance led to "bring in order, make precious, love," independently of the vulgar correlation. This is made certain from Maya *tsol* "to put in order, explain," *tsolante* "ritual, ceremonial, calendar," Kekchi *tsol* "row, furrow, to teach."

It would be more correct to say that *Tlasolteotl* is the Goddess of Carnal Love, the evil connotations being a natural concomitant of its name, since to the worshipper all carnal love is sinful. A goddess of carnal love is naturally a moon goddess, since carnal love, generation, like menstruation, are associated with the moon; hence she is represented with the *yakametstli*, the moon-shaped nose adornment, and has moons represented on her cloth (Fig. 268). She belongs in the family of *Teskatlipoka*, *Itstli*, and other derivatives of the Great God *Itsamna*, and like all of these is a quintuple deity, each representing a direction, north, east, south, west, center, but she is essentially one, and so it takes "five," a *tun*, to represent the "one," which is rendered by the Nahuatl *tonaleke*; hence we have in the Mayan "five" face sign a head-dress of a *tun*, that is, "five."

¹ See p. 99 f.

XIII.

The Jaguar.

IN Codex Nuttall we frequently find the representation of the jaguar. On p. 24 (Fig. 269a) there is an *oselotl* standing inside a double snake sinuosity. On p. 27 (Fig. 269b) he descends, as the rain-beast, from the sky. On p. 29 (Fig. 269c) he represents Death, as evidenced by his fleshless jaws, bony lips, and *tekpatl* on the nose. On p. 31 (Fig. 269d) he leans over a flower. On p. 46 (Fig. 270) he seems to be the phonetic element of a name *Oselotepetl* and is represented crouching on a conventionalized mountain, and here there is also another jaguar, of a red color, similarly situated. The first is again represented on p. 50. We have also *oselotls* on pp. 59, 66, 69, 73, 82. In all but one of these the *oselotl's* body is yellow, his eyes, tongue, and roots of claws red. Irregular circular spots cover his whole body, but on p. 50 some of these spots are alternately long, and up and down the spine are black circular patches such as are generally represented on a snake, while the roots of the claws and the nose are painted blue. In Codex Fejérváry-Mayer the jaguar is similarly depicted on pp. 26, 28 (Figs. 271a, b), while on p. 41 (Fig. 271c) the jaguar is bleeding from a wound passing through his body, having apparently been wounded by the warrior or god who has but two spears left instead of the usual three. In Codex Vaticanus the full form of the animal (Fig. 272) contains small and large circular spots, black patches and the snake-like markings on the spine, while similar markings are found on the tips of the ears. The *oselotl* is here standing on a man, while *Miškowatl*, the God of the Chichimeks and of hunting, is on the point of throwing an *atlatl*, or throwing-stick, at the beast. The god is recognizable by being naked, except for a neck adornment, hence the figure on p. 41 of the Codex Fejérváry-Mayer is also the God of the Chase, since he has a similar minimum of garments. In Codex Nuttall the jaguar, when used for a phonetic value, is represented as transfixing by a spear, evidently because he was best known as the hunted animal. In Codex Borgia, p. 50 (Fig. 273), which corresponds to p. 25 in Codex Vaticanus No. 3773, we actually find *Miškowatl* in the act of spearing the *oselotl* as he is tearing a man to pieces, and the same story is again told in Codex Vaticanus No. 3773 (Fig. 274), where the Hunting God is by Seler identified as the god of the Planet Venus, *Tlawiskalpantekutli*, whom, however, he recognizes as a variation of *Miškowatl*. In Codex Vaticanus No. 3773 the spine of the *oselotl* is represented by two continuous

black lines. In Codex Bologna (Fig. 275), it is a death god who similarly spears the *oselotl*. In Codex Borgia the jaguar has the usual markings, with black-striped ears and tail on p. 24 (Fig. 276a), while on p. 10 (Fig. 276b) the patches are large and triangular and the back is provided with *tecpatl*s.

The jaguar was not only hunted for his skin, but played an important part in social concepts. Jaguar skins are mentioned as part of a tribute on p. 23 of Codex Zapoteco, where we have full-sized jaguar skins. In the Aubin Collection attached to the Atlas of Duran's *Historia de las Indias de Nueva España* (Fig. 277), we have the picture of a mummy pack with the property of the dead person buried with him. Here there are gold trinkets, beads, and a whole jaguar skin. Precisely the same subject is treated in the Codex Magliabecchiano (Fig. 278), and here the Spanish legend says: "This figure is that of a merchant who, when he died, was cremated and buried with his property and jaguar-skins, as many as he had of them; they put them all around him, the gold, jewels, and fine stones which they had, and the plumes, as though they were going to use them there in Miktlan, which they called the place of the dead." Here the patches of the skin are large and irregular, while down the spine they are of a type to suggest the curious snake markings which we have met elsewhere.

Seler¹ quotes Dominican monks of Chiapas and Guatemala to the effect that the Indians of those regions in moments of great danger to their lives began to confess all their sins, being convinced that thus they might ward off calamity. If an Indian was lost in the woods and fell in with a jaguar he did not protect himself against the animal, but knelt down and made a clean breast of his past misdeeds and finished his recital with the words, "Do no kill me!" It is, no doubt, chiefly this attribute of the avenger that led to the jaguar attire of the soldier, especially in his capacity of furnishing the victim for the sacrifice, even as the wizard, the *teyollokwani*, the eater of hearts, is thus disguised. We can trace these customs to Arabia, then to Guinea, whence they were carried to America. "The kings of the Arabs, when they sat in judgment to slay a man used to attire themselves in skins of the *namir*, leopard, and then give orders for the slaying of him whom they desired to slay."² The Arabic dictionaries also mention the Persian name of the leopard, *palan*, from which it would appear that the custom was originally Persian, where the leopard skin actually represented superior power, hence *palangīna* "royal vest." It is, therefore, not unlikely that the Arabic *namirah* "a garment having white and black stripes worn by the Arabs of

¹ *Codex Borgia*, vol. I, p. 95.

² Lane, *Arabic Dictionary*, sub *nmr*.

the desert" is a mere translation of Persian *palangīna* and refers to the noble attributes of the leopard skin.

In Africa as, no doubt, already in Arabia, the Persian *palan* was confused with Arabic *balīyah* "a she camel which, in the time of ignorance, had her foreshank bound to her arm at the grave of her master until she died, or for which was dug a pit, wherein she was left until she died," and *balā'un* "trial, trouble, affliction of any kind by which one's patience or any other grace or virtue is tried, proved, or tested" and the Mande *bal* "lock" words derived from Arabic *gafal*.¹ This follows from the prevalence of the Leopard Society with its cannibalistic rites and avenging spirit, which is still continuing to cause trouble to the authorities of the Guinea Hinterland. Reminiscences of this confusion are imbedded in the African languages, where we have Bambara *balauma* "fighter, warrior," hence *balan*, *balau* "bloody fight," as though the first were a *-ma* derivative of the second. In Bambara *bari* "fight, duel, to be attached to one" we see that the duel was intended as a dispatch of one attached to the dead person as a mate in the other world, while Soso *bale* "an animal that follows its master everywhere," *bala* "to follow out of love," Malinke *balan* "to attach oneself, hook up" bear witness to the correctness of our assumption. From the Bambara we get Wolof *bare* "to fight in a duel." Elsewhere the longer form in Peul *barmude* "to wound," Malinke *barama*, Bambara *banama* "to mutilate," hence Soso *bana* "to castrate" show the influence of the Persian *palan* more fully.

In America we have in the Mayan languages Maya, Mam, Jacalteca *balam*, Pokonchi *bahlam* "tiger," while Huasteca *pallam* "hombre esteril" seems to refer to castration, and Nahuatl *palani* "to rot," *palaštli* "wound, tumor," *papalani* "to be covered with wounds" show how the jaguar represents the "duel, bloody fight" of the Africans. Soso *bana*, Bambara *banama*, which presupposes *bana*, actually recorded for "sick," leads to Nahuatl *wawana* "to scratch," *warwantli* "soldier dedicated to the gladiatorial sacrifice," *tlawawanalistli* "gladiatorial sacrifice."

If we now turn to the Mexican codices we find in them a large number of pictures referring to the Arabic custom of judicial or gladiatorial sacrifice. In Codex Nuttall the jaguar soldiers are very prominent. On p. 8 (Fig. 279) a jaguar noble or king is seated on a jaguar skin within a palace or temple, while all around him are warriors with spears and *atlatls*, of whom two wear jaguar head-dresses. Jaguar warriors swarm on pp. 10, 11, 12, 13, etc. (Fig. 280). In the *Tonalamatl* of the Aubin Collection we have the jaguar and the eagle with flags represented on p. 11 opposite *Patekatl*, the Pulque God

¹ See p. 96.

(Fig. 281). On p. 3 he is seated on a throne as *Tepeyollotli*, the Heart of the Mountain, who is also the Lord of the Beasts (Fig. 241), hence he is frequently represented in a cave as in Codex Vaticanus No. 3773, p. 87 (Fig. 282), while on p. 51 (Fig. 282) he is seated as *Tepeyollotli* on an interesting variation of a jaguar-skin seat. Here, too, on p. 59 (Fig. 283) we have the jaguar as a warrior, with a flag in the hand, in front of *Patekatl*, as before. That in all of these the reference is to war is brought out by the glyph representing a bundle of arrows or spears. The same is also found in the representation of *Tepeyollotli* in Codex Borgia, on p. 63 (Fig. 284), and of the warrior in front of *Patekatl* on p. 70 (Fig. 285). In the Codex Zapoteco the jaguar attire for warriors is generally marked as in the *Tonalamatl* of the Aubin Collection, but occasionally as on pp. 28, 31 (Figs. 286a, b) it is blue or red in color. In another part of the Codex Zapoteco there are on pp. 25 and 26 (Figs. 287a, b) also representations of priests in jaguar attire. This connects the priests with the jaguar, as mentioned before. In Codex Nuttall a new chapter seems to begin on p. 82 (Fig. 288) with the picture of a jaguar. Beneath it we have the representation of the cremation of a dead person by two black attendants, one of whom offers a bird. On the next page (Fig. 289) one black attendant in jaguar mask holds the weeping form of another black attendant by the hair, and immediately afterwards (Fig. 290) two jaguar warriors are attacking a weeping prisoner tied to the *temalakatl* or ball-ground stone. From this juxtaposition it follows that in America, as in the Arabian tying of the camel to the grave, we have the immolation for the purpose of the attendance of the victim upon the dead person. Indeed, in Codex Magliabecchiano there in on p. 66 (Fig. 291) a picture of a mummy pack with a sacrificed slave near by and the legend reads: "When a chief died, they at once prepared him for burial in a crouching position. They burned him to ashes, as the Romans used to do of old in the days of their paganism. In front of him they sacrificed one or two slaves, in order to bury them with him after they, too, were cremated. In some places they buried his wives with him, in order that they might serve him, and also his treasure, if he had any."

The gladiatorial sacrifice is in the Mexican codices given in connection with the feast *Tlakašipewalistli*, the Flaying of the Body, which took place in the second month. In Duran's *Historia de las Indias de Nueva España*¹ we have two accounts of the feast, which took place in March, when a number of men were sacrificed in a gladiatorial contest. For forty days the victims had been dressed like the Flayed God *Šipe* and treated like a god. On the

¹ Chaps. XXXVI and LXXXVII.

day of the sacrifice each victim was tied by a rope to the center of the *temalacatl* of the ball-yard and was supplied with a wooden weapon, while a warrior in jaguar attire and armed with a sharp sword attacked him until he was disabled in this ceremony, called *tlawarwanalistli*, that is, "wounding," after which he was taken before the idol to be sacrificed. The pictures referring to this gladiatorial sacrifice in Duran (Fig. 292) are identical in subject with those in the Aubin Collection (Fig. 293), Codex Magliabechiano (Fig. 294). As the jaguar soldiers were devoted to the knighthood of the sun and the victims of the gladiatorial combat were taken to the *Kwauhšikalli*, the eagle vase, which was dedicated to the sun, in order to have their hearts deposited in the vase, there existed some relation between the jaguar and the sun, which, however, is not distinctly revealed in the written account, although it is made evident in the glyph of the jaguar-skin seat and in the calendar, as shall soon appear.

Like the Persian *palangīna*, the jaguar skin, in the form of a seat cover, is the representation of royal authority in Mexico. In Codex Nuttall important personages or gods are seated on a heap formed of jaguar skins. Such a heap shows the back part of the jaguar's body, generally with a black-tipped tail. Occasionally such a seat has a colored line and is adorned with a circular center, while on pp. 29 and 79 (Fig. 295) we have a seat with two such circles. In the *Tonalamatl* of the Aubin Collection several gods are seated on a jaguar-skin cushion. In Codex Vaticanus No. 3773 the jaguar-skin heap does not differ from the simpler form of that in Codex Nuttall, and we have the royal dignity represented by a throne with a jaguar-skin cover (Fig. 296a). The same is true of Codex Borgia (Fig. 296b). By far the most interesting series of jaguar skins is found in Codex Fejérváry-Mayer. Here we have the usual jaguar-skin seat (Figs. 297a-j), often with a red lower border. On pp. 30, 36, 39 (Figs. 297h-j) we have, instead, a seat, of the shape of a throne, but with jaguar markings and itself yellow in color. On p. 29 (Fig. 297d) there are two circular designs in the middle. Lengthened spots may be observed on pp. 6, 9, 10, 13 (Figs. 297a-c), while on pp. 5 and 8 (Figs. 297b, c) we have distinctly a black sun design at the top, which on pp. 7, 11, 12 is conventionalized in two concentric semicircles.

The glyph for *oselotl* furnishes few variations, since it is always characteristically the head of the *jaguar*, which can easily be detected by its black-tipped, roundish ears, spotted skin, as in Codex Nuttall, p. 9 (Fig. 298a). On p. 54 (Fig. 298b), where the head is not a day glyph, it is represented as bleeding, apparently because the head stands for the whole body. On pp. 32, 57, 58 (Figs. 311c-e), where it is equally not a day glyph, the

head is surrounded by a series of dots, apparently to represent the same kind of an abbreviation.

In the Mayan manuscripts the references to the jaguar are scanty, but invariably of the same type as in the Mexican codices. In Codex Dresden we for the first time meet with the jaguar on p. 8. Here (Fig. 299) we have the characteristic dotted lines and the black spine and tip of the tail which we have found in the Aztec representations of the *oselotl*. On p. 26 the jaguar is connected with a dog-shaped god (Fig. 300), while on p. 39 (Fig. 301) he is represented as a fire animal, with a torch in his forepaw and barely indicated by a series of dots instead of the usual patches on his skin. It is, however, possible that in the last the dog is represented and not the jaguar. On the next page he is actually descending from the sky, just as we found him in corresponding Mexican pictures.

Beginning with p. 46 we have a very interesting redaction of a story connected with Venus (Figs. 302-306). On this page we find in the upper picture an old god seated on the conventionalized sky, to the left of which is the nearest approach to the Mexican glyph *Tlalok*, where we have the same blue sinuosity for the face, and within it the conventionalized water-eye. On the next page we have at the bottom a tawny jaguar transfixed by a spear, while above him is a long-nosed god, with but two arrows, the third apparently being the one by which the jaguar is transfixed. This god has on his thighs the semicircular double lines, which in Codex Fejérváry-Mayer we have found connected with the jaguar-skin seat. That this divinity is connected with Venus, that is, that he corresponds to *Tlawiskalpantekutli* of the Mexicans, is shown by , the sign of Venus, in which his head-gear ends. On p. 48 the central figure, dressed in a jaguar skin with a tipped tail, has again the sign of the jaguar on his body in the form of . On p. 49 the upper picture represents a divinity seated on a royal seat, the back of which is of the form of jaguar seats in Codex Fejérváry-Mayer. On the head of this divinity is again the sign of *Tlalok* in his Mexican form. The central figure, with one clawed hand, has over his loins a skirt, which seems to show jaguar markings. The lower figure, like the jaguar of p. 46 and all the other lower figures, represents a prostrate transformation of the transfixed jaguar. There can be no doubt that all the upper figures represent *Tlalok* pouring water from a jar, while all the middle figures represent transformations of *Tlawiskalpantekutli*, who has discharged one of his spears, while below we have similar transformations of the killed jaguar. It will be observed that opposite the central figure in all the pages we have the glyph of Venus in the left-hand writing, and the sign similarly appears above the

central figure. On p. 50 both the upper and middle divinity have the jaguar signs on their bodies, while the lower, prostrate figure has the sign of the sun on his shoulder, and this is transfixed by a spear.

In Codex Tro-Cortesianus we do not have the elaborate Venus story, but the jaguar is sufficiently in evidence. On p. 47 we have *Ketsalkowatl* with four rain-beasts which resemble each other very much. The jaguar is the upper left animal with the characteristic red jaw, black marking down the spine, and black-tipped tail, while the dog at the bottom has a hairy tail and round markings on the body (Fig. 118). The jaguar is connected with the chase of the deer, where he is found wounded (Fig. 307). In the celebration of the epagomenal days, on pp. 40-43, at least three of the priests are dressed in jaguar attire, with black-tipped tail (Fig. 308).

Fortunately we can identify the whole set from Landa.¹ He tells us that the Yucatan towns used to put up heaps of stones, one in front of the other, at the four entrances, north, south, east, west, for the purpose of celebrating the supplementary days. We are not here interested in the mythological or calendar significance of the whole, but only in the references to the jaguar. In the *muluk*-year, the statue placed on the heap of stones represented *Kinč-ahau*, the Sun God, who, as we shall soon see, was in this matter identified with the jaguar skin, but this was already mentioned before. In the *iš*, that is, "jaguar" year the idol thus placed was called *Kinč-ahau-itsamna*. In the *kawak*-year four idols were thus placed, two of which, *Ekbalamčak* and *Ahbuluk-balam*, refer to the jaguar, as the word *balam* shows. There is some relation in this celebration of the supplementary years to the worship of the star Venus, identified with *Tlawiskalpantekutli* of the Mexicans and the god who spears the jaguar in the Codex Dresden.

This was already recognized by Seler, who pointed out that in the *Anales de Quauhtitlan*² the star Venus in the sign *se akatl* shoots the kings. This is represented in Codex Vaticanus No. 3773, p. 83 (Fig. 309), where the royal dignity, as we have seen, is represented by a throne covered with a jaguar skin, which here is pierced by *Tlawiskalpantekutli's* spear. In the corresponding figure of Codex Bologna (Fig. 310) the sun takes the place of the jaguar skin. This establishes firmly the relation of the "jaguar skin" to the "sun," as found in Codex Fejérváry-Mayer, and this leads us to the study of the Mayan *tun* glyph.

¹ *Relation des choses de Yucatan*, Paris, 1864.

² *Codex Borgia*, vol. II, p. 147 ff.

XIV.

The Philological History of Nahuatl *ton*.

ARABIC *'arram* "to heap up, pile up," *ta'rīm* "act of heaping, piling up," *'urmah* "heap, pile" has undergone strange changes in Africa. In Algiers the Jews pronounce *'armā* "pile" with an emphatic *r*, which explains its transformation in Berber. Here we have Harakta *'arrem* "to be very numerous," Shawiah *'arrem* "habitual," *t'arrem* "to abound," *i'arrem* "in plenty," while in Mzab we get *tagimt* "heap." In the Negro languages we get Wolof *d'urum* "five," that is, "the first heap," since "heap" is in many African languages the underlying meaning of "five." This Wolof *d'urum* is preserved in the original meaning of "heap" in the abbreviated *d'ur* "merchandise, wealth, fortune" and, as in Mzab, with the change of *r* to *k* in *diuke* "pile, heap." Precisely the same relation of *r* to *k* may be observed in Peul, where we have similarly *d'oure*, pl. *d'ōwe*, "heap, undivided family property," *d'oi* "five," *d'okkude* "to prolong, add," *d'okkere* "that which is attached." The curious dropping of the final *m*, which takes place in Wolof and is accomplished in the Mande languages and Peul, would indicate that the Arabic "heap" word in Guinea is due to a trade relation which proceeded from the Berber country down the coast and then passed in the Mande country to the interior. Thus it happens that in Hausa we have the apocopated *dora* "to heap up, increase," *tara* "to put together, be assembled, full," *tari* "abundance, plenty," *taru* "company, multitude." These, by the side of Berber *t'arrem* "to abound," well illustrate the geographical sequence of the abbreviation.

In the Mande languages we similarly get Bambara *duru*, *dulu*, Dwama *door*, Mende *dolu*, Dyalonke *lolu*, *solu*, Dyula *lūri*, Malinke *lulu* "five," etc. As a "heap" meaning we have Bambara *to*, *tuñ*, Malinke *tuñ* "heap," while Malinke *tuguñ* "more, again, to close," Dyula *tugu* "again, to close," Bambara *tugu* "to attach, put together, follow, be faithful, take one or the other," Malinke *tugu* "to make a knot," Khasonke *tugu* "to pile up, more," show that the original form was *tuguñ*, from Arabic *t'arīm*, through Mzab *tagimt*. The abbreviated *tuñ* is found in Songay *ton*, *tonton* "to add, still." In the Mande languages *tuñ* became associated with "the rich man's heap, wealth," even as we have found Wolof *d'ur* "wealth"; hence we have Malinke, Bambara *tuntigi* "of the noble class," literally "master of wealth, of a heap." Wolof *ture*, Vai *toñ* "name" show that we are still in the same

semantic group, "name" arising from "fame, wealth." Indeed, we see this correlation in Bambara *tua, togo* "name, reputation," hence *tuama* "illustrious, famous, namesake," Malinke *to, toho* "first name," hence *toho ba* "great, illustrious name," *tohoma* "namesake." In Soso *tohoma*, Peul *tokora* "namesake" we have unquestionably borrowings from the Malinke, where the correlation of "name" and "heap" seems to have arisen.

The Mande "heap" word is well represented in Aztec and the Mayan languages. We have Maya *tuk, tsuk* "heap," *tsukel* "belly," *tukub* "heap," *tukaamuk, tukaaten* "another time." In the abbreviated form *tu* "heap, add," we have a source of confusion in the numerals. In Beltran's¹ *hun-tu-qal* "twenty-one" we have, apparently under Spanish influence, "one and twenty," while in *hun-tu-wak-qal* "101" we have literally "one (from) heap six twenty." For "500" they said *ho-tu-baq*, for "900" *ho-tu-yoš-baq*, which Tozzer is puzzled to explain except as standing for *ho-qal-tu-baq* and *ho qal tu yoš baq*, " $5 \times 20 + 400$ " and " 5×20 on the third *baq*," respectively. Tozzer is unquestionably mistaken, since *tu* means "heap" and stands in its lowest denomination for "5," in its next denomination for "20" and *qal* is unnecessary and impossible. We get a good insight into Mayan mathematics by studying the corresponding numeration in Guinea.

The cowries or shells are still much in use as a monetary unit. In order to avoid any mistake in the higher numbers the Bambaras make heaps of 80 *keme*, 800 *ba*, 8000 *ba tan*, etc., which they call *sigi-yoro*, and they say *ba keme sigi yoro saba*, that is, three heaps of 80 *ba* = 240 *ba* or 192,000 cowries, etc. In numbers of less importance they suppress the expression *sigi-yoro* and simply say *ba keme fla, saba, nani* = 2, 3, 4 times 64,000, etc. The expression *sigi-yoro* is, however, not limited to the mere counting of cowries, for it is used also in the counting of other objects.²

Fortunately we are able to show how this peculiar system of counting originated.

The cowries have a special numeration. They are counted by the tens, and it would at first seem that the system of numeration is decimal, but they count $8 \times 10 = 100$, $10 \times 100 = 1000$, $10 \times 1000 = 10,000$; $8 \times 10,000 = 100,000$; so that 100,000 (*oguinaïé temedere* in Peul) is in reality only 64,000, and 10,000 (*oguinaïé sapo*) is only 8000; and 1000 (*guiné ouguinaïé*) is only 800, and 100 only 80; but habit makes them count quite rapidly, even in this system. As to the people of the country, their method of operating is very simple. They count five cowries at a time, which they pick up with a dexterity and promptitude acquired only in time, and when, doing so, they have counted 16×5 , they make a heap and call it 100. When they have five such heaps they keep them to-

¹ A. M. Tozzer, *A Maya Grammar*, in *Papers of the Peabody Museum of American Archaeology and Ethnology*, Cambridge, 1921, vol. IX, p. 99 f.

² P. Sauvant, *Grammaire bambara*, Maison-Carrée (Alger), 1913, p. 62.

gether, and make five more heaps, then they unite the whole and call it a 1000. The merchants and women, to avoid mistakes, make at first a lot of small heaps of five cowries and these they unite by eight, which make a half-hundred or *debe* in Bambara.¹

In this Bambara numeration we have a dislodgment due to a confusion of the decimal and vigesimal systems, "eight thousand," that is, 20^3 , having given rise to "eight hundred" and "eighty" as similar divisions; hence by calling the first "eighty" a "complete" count, that is, "hundred" in the decimal system, they were able to accommodate the vigesimal to the decimal count. To this feature I shall return later. It is obvious that in the vigesimal count they called "five" a heap, and "four heaps" became "the complete count," hence, when the Mayas took over the Negro numeration, *tu* was used both for "five" and "twenty." Indeed we have Maya *hut* "complete, all," hence there can be little doubt that Maya *hotu* "five" was originally the "first complete heap," hence "five," and this produced *ho* "five." From *ho-tu-baq* "500" it is clear that *tu* also meant "twenty," that is, "the complete heap," and here we can show that the Mexicans got their numeration, as regards the larger numbers, entirely from the Mandingos and bequeathed it to the Mayas.

In Aztec the "complete" count is *poalli*, as in *sempoalli* "one count, twenty," from *poa* "to count, respect, esteem," *popoa* "to pay." In the African languages, as we have seen above, there is now a confusion of the decimal and vigesimal systems. In the eastern Mande languages *tam* is used for "ten," but in the western Mande languages we have *fu*, *pu* for "ten," from Wolof *fuk* "ten," which is Berber *fuk* "finished," from Arabic *fuwūq* "to expire," *dzā fūqin* "a complete share." This root is also found in Mande, where we have Bambara *fa* "full capacity, to fill up, heap up, complete," *fā* "to kill, massacre, destroy," Malinke *fa* "full, satiated," *faha* "to kill, obstruct," *fāga* "authority, power," *fama* "powerful man, king," *faha* "to kill," Vai *fā* "to be full, dead," *fa* "to die, expire, death," Soso *fakha* "to kill, perish," Dyula *fa* "to fill," *farha* "to kill," *farhama* "king, chief," *farhandē* "poor man," and also Wolof *faïssa* "to play, be full." Because the Arabic means both "to expire" and "to complete" we get the contradictory terms in the Mande languages and in Wolof, and we have in Soso, side by side, *fu* "ten" and "nothing." Similarly we have Mende *fe*, *ve* "completely," *pā*, *wā* "to kill," *pu* "ten." In Bambara we have *fu* "nothing."

Originally *fu* could have been only "twenty," since that was the complete count in the vigesimal system. In taking over the notion for "twenty," which also meant "nothing" and "death," the Mayans have also preserved the

¹ M. E. Mage, *Voyage dans le Soudan Occidental*, Paris, 1868, p. 191 f.

meanings "nothing" and "death," in connection with "twenty," as we elsewhere see, even though the term for the number has been changed. The Maya word *qal* "twenty" also means "to shut up," hence *qalab* "key," but *qalab-qin* "the whole day, complete" shows that the idea "to shut up" means "embracing the whole." Indeed we have Kekchi *q'alu* "to embrace." In the other Mayan languages we have Pokonchi *tuhb* "heap," *tuhbal* "crowd," *tubam* "to heap up," and *tuk* is used for "a heap of forty," hence *ho-tuk* "200." Similarly we get Kekchi *tub*, *tsub* "heap" and *tuk* "forty" in *o-tuk* "200," Kiche *tsub* "heap," *tuba* "to heap up, put together," *tsob* "to unite, heap," Huasteca *tokat* "alone," which corresponds to Maya *huntuk* "one heap." It even appears in Ayook *tok* "to tie together, one, alone."

In Nahuatl we have the whole gamut of meanings inherent in the Mande root. We have *toka* "to follow, accompany," which in *totoka* "to increase, go fast, rage" shows the "heap" origin, which comes out even better in *toktia* "to increase, join a crowd." We also have Nahautl *tokaitl* "name, reputation, celebrity," hence *tokapotli* "namesake," literally, "name-companion." From this *toka* we get *tlatoki* "chief, great lord," *tlatokaikpalli* "royal seat, throne," *tlatokayotl* "greatness, dignity, crown, genealogy." In the sense of "royal, noble" *toka* becomes confused with *tektl* "lord, nobleman," from an entirely different root,¹ which itself leads to *teka* "to unite," *teki* "much," *tekpan* "lord's palace," hence Kiche *tek* "to increase, heap upon each other," *tekpan* "communal house," *tekpanir* "to increase the tribute."

We also have Malinke *tun* represented in Maya and Nahuatl, but here a hopeless confusion has taken place with another Mande homonym, namely, Mande *doñ* "day." We have Bambara *doñ*, Malinke *luñ*, *doñ*, Hausa *rana*, *lana* "day, sun," Peul *ñalande*, *ñelauma*, *ñal* "day," from Arabic *nhār*, in Adirar in the plural *nihirān* "a day of twenty-four hours." The latter, contracted to *rān*, lies at the foundation of Hausa *rana*, Malinke *luñ*, Bambara *doñ*, while Peul *ñal*, standing for *ñar*, is derived from Arabic *nhār*. This Bambara *doñ* appears in Nahuatl *tonalli*, *tonatiuh* "sun," from *tona* "to heat (of the sun)," which stands alone in the Uto-Aztecan languages, for elsewhere we have a root *tah* or *tab*, as in Pima *taš*, *tah*, Opata *tät*, *tat*, Cahita *taa*, Tarahumar *tahwe*, *rahwe*, Comanche *tah arp*, Shoshone *tabe*, *tabbe*, Wishinasht *taba*, Utah *tap*, Chemegue *taba-puts*, Cahuillo *tamit*, Kechi *temet*, Kizh *tamet*, Moqui *tahwah*, Tesuque *tah*. These are identical in origin with the "fire" words in Opata *thai*, Eudeve *te*, Cahita, Pima *tahi*, Tepehuan *tai*, Cora *tait*, Papago *taai*. The Nahuatl *ton* root is distinctly an

¹ See my *Africa*, vol. III, p. 228 f.

innovation, and while here it has the value "sun" or "day," as in *tonalamatl* "paper of the days," it is recorded in Maya *tun* as "stone, precious stone, (year)." From Landa we learn that *tun* is not "stone," but "heap of stones," so that "heap" is the important denomination, which here leads to all the other connotations. This becomes clear from Huasteca *tuhub* "stone," whereas in the other Mayan languages it means "heap," as in Pokonchi *tuhb*, Kekchi *tub*, etc.

XV.

Tun and *Qatun* in the Mayan Chronicles.

1.

IN the chronicle of Ošqutskab¹ occurs the following sentence: "Now I, on May 29, 1685, have copied this from an ancient book, that is, characters by name *Anares*." As there is no *r* in the Maya language, this *anares* can only be a borrowing from elsewhere, to represent Spanish *anales* "annals," as referring to something that may or may not have been originally written in Maya hieroglyphics. Just about the same time the Maya hieroglyphic books are referred to by Villagutierre Sotomayor, who saw them among the Itsas of Lake Peten: "Because their king (Canek) had read it in his *analtehes* [fiber-books or codices] they had knowledge of the provinces of Yucatan, and of the fact that their ancestors had formerly come from them; *analtehes* or histories being one and the same thing."² When the Spaniards first referred to the Mexican manuscripts, they called them *nekene*,³ if they were written on cloth, and *amatl*, when they were made of paper.⁴ Popularly, Nahuatl *-tl* was changed to *-lt*, as in *pikielt* for *pikietl*, so that *amatl* must have at once passed into *amalt*, hence *analtehes* is a further reduction, through an attempt to bring it in line with Spanish *anales*, which finds its complete adaptation in *anares*. The importance of this is that, whatever the books may have been, they were in their transcription with Spanish letters so much under Mexican Spanish influence that they had to use a Mexican word transformed by Spanish etymology to characterize the ancient books.

The Book of Čilan Balam of Mani, written in the beginning of the seventeenth century, begins its account of the *qatuns* with the words: "This is the arrangement of the *qatuns* since the departure was made from the land, from the house Nonowal, where were the four Tutulšiu, from Suiva at the west; they came from the land Tulapan, having formed a league."⁵

¹ S. G. Morley, *The Inscriptions at Copan*, Washington, 1920, p. 470 ff.

² *Ibid.*, p. 43.

³ "Las pinturas en unos lienzos que acostumbraban, que se llama *nequene*, y libros del papel de maguey que se usa entre ellos" (1537), J. G. Icazbalceta, *Coleccion de documentos para la historia de México*, México, 1866, vol. II, p. 8.

⁴ "El árbol y el papel se llama *amatl*, y este nombre llaman á las cartas y al papel y á los libros los españoles *amatl*: el libro su nombre se tiene," J. G. Icazbalceta, *Memoriales de Fray Toribio de Motolinia*, Méjico, 1903, p. 318 f.

⁵ D. G. Brinton, *The Maya Chronicles*, Philadelphia, 1882, p. 100.

Brinton was much puzzled with the words "kante *anilo* Tutulšiu," because *kante* "four" has *te* for a classifier, and this is never used of persons, but of years, months, days, etc., and, besides, *anilo* is nowhere recorded.¹ Brinton has pointed out the mythical and Aztec aspect of the beginning of this account, which is apparently based on the identity of *Šiu*, the name of ruling persons, and the *Tutulšiu*, "the complete *Šius*," as the Spaniards or the natives called the province, when the Spaniards first arrived there.

To understand the expression "kante *anilo* Tutulšiu" we turn to the Book of Čilan Balam of Čumayel III,² where we read: "The fourth ahau qatun; then took place the search for Čičen Itsa; at that time they were marvelously improved by the fathers. They went forth in four divisions which were called the four territories. One division came forth from the east of Qin Kolah Peten; one division came forth from the north of Nakokob; one division came forth from the gate of Suiwa to the west; one division came forth from the mountains of Kanheq, the Nine Mountains, as the land is called." Brinton has remarked that the story sounds mythological.³ We are obviously dealing here with a localization of the Tableau of the Bacabs, each direction, east, north, west, south, furnishing a *tsuk* "division," for each division is identified with a *tsukul kab* "a division of the land, territory." The four divisions form the four territories in the fourth *qatun*,—all this is too schematic to be correct history. Besides, no two chronicles agree as to the Čičen Itsa dates. Here we hear that the search for Čičen Itsa began in the fourth *ahau qatun*. In the Book of Čilan Balam of Čumayel I the discovery of Čičen Itsa took place in the preceding sixth *ahau*, while in the Book of Čilan Balam of Tisimin, Čičen Itsa was learned about still earlier, in the eighth *ahau*, and in the Book of Čilan Balam of Mani the discovery of Čičen Itsa is placed not earlier than the fourth *ahau*. The number "four" has in the Book of the Čilan Balam of Čumayel III a sacramental meaning, for it is repeated several times: "The fourth ahau was the name of the qatun; the births took place; . . . the towns were taken possession of by the rulers." "The fourth ahau was the name of the qatun; in it they arrived, the Great Arrival, the Less Arrival, as they are called." "The fourth ahau qatun; then took place the calling together of the four divisions, the four territories as they were called, and they arrived at Čičen Itsa and were called the men of Itsa."⁴ It is precisely the same that we have in the passage which gives "kante *anilo* Tutulšiu." *Tutulšiu* means "all the *Šius*," and to a Mexican "four" is "all," since it gives the four directions. The copyist translated *Tutulšiu* by "four years," since in Nahuatl *šiu* means "year," but in the

¹ D. G. Brinton, *The Maya Chronicles*, p. 106 f.

² *Ibid.*, p. 180.

³ *Ibid.*, p. 184.

⁴ *Ibid.*, p. 180 f.

old Maya chronicles "year" is invariably rendered by *haab* or *año*, and the latter, under the influence of *anales* (since they deal with the four years), produced the *anilo* of our text, where "kante *anilo*" simply means "four years," the equivalent of "Tutulšiu."

In Naquq Peč's Chronicle of Čak Šulub Čen, originally written in 1562, we are definitely informed that a *qatun* came to an end in 1517: "The land was discovered by Aguilar, who was eaten by Ah Naum Ah Pat at Kusamil in the year 1517. In this year the *qatun* ended, and then ended the placing of the town stone, for at each twentieth stone they came to place the town stones, formerly, when the Spaniards had not yet come to Kusamil, to this land; since the Spaniards came, it has ceased to be done."¹ In the beginning it is written: "The fifth division of the 11th Ahau Qatun was placed when the Spaniards arrived and settled the city of Merida; it was during the 9th Ahau that Christianity was introduced; the year in which first came our lords the Spaniards here to this land was the year 1511."² From these two statements Pio Perez and Brinton came to the conclusion that a *qatun* lasted twenty-four years. "Assuming the correctness of the figures 1517—and there is no reason to doubt it—then Peč counted the *qatuns* as of 24 years each, as Pio Perez maintained was correct; because he has already informed us in his introductory paragraph that the year 1541 was the close of the 11th Ahau, and $1541 - 1517 = 24$."³ But this is in total variance with every other statement in the Mayan chronicles where the *qatun* is specifically mentioned as of twenty years' duration. It is easy to see how the blunder arose. For the second quotation the writer used the term *u hotsuk*, which should have been translated by "the five-heap," that is, the first five years of the *qatun*, which would give us twenty-five years for the period mentioned by him. If the event in 1517 took place early in the year, and the other, in 1541, took place late in the year, we shall get twenty years for the *qatun*, as it should be, and *tsuk* refers to one fourth of that period, again as it should be. Here five years make a *tsuk* "heap." As Peč distinctly says that an *u tunil balkah* "a world stone" was placed against the twentieth *tun*, a less important monument must have been placed against the fifth stone, which is meant by Peč's *u hotsuk*.

But our trouble only begins, for, if in 1541 it was five years from the end of a *qatun*, a *qatun* should have ended in 1536. Yet we read in three or more chronicles that Ahpula died in 1536 when there were still six years in the thirteenth *ahau*, while in the Book of Čilan Balam of Čumayel II he died in the first year of the eleventh *ahau*. All of this shows the unreliability of the

¹ D. G. Brinton, *The Maya Chronicles*, p. 226 f. ² *Ibid.*, p. 216. ³ *Ibid.*, p. 250.

chronicles as to almost contemporaneous dates.¹ There can be no doubt that an *ahau*, as understood by the chronicles, came to an end in 1536 or early in 1537, and it is possible to determine exactly what is meant by the death of Ahpula. The *ahaus* or *qatuns* mentioned in the chronicles are not recorded as such in the inscriptions. Morley says: "How early this method of recording dates was developed is uncertain. It has not yet been found (surely) in the inscriptions in either the south or the north; on the other hand, it is so closely connected with the Long Count and Period-ending dating, which occurs repeatedly throughout the inscriptions, that it seems as though the *u kahlay katunob* must have been developed while this system was still in use."² We must first determine when these *ahaus* or *qatuns* denoting twenty-year periods arose.

In the Mexican codices we have a large number of varieties of glyphs for the twentieth day *šočitl* (Figs. 311, 312). From these it appears that a schematic form would be  or , which appears in the Maya manuscript forms as  (Fig. 313), and this in the inscriptions where one or two cartouches are added, becomes conventionalized into a face (Figs. 314), which, when it is turned into a profile, gets a circle on the cheek, and from being called *ahau* "Lord" becomes confused with the Thirteen Lords of the Day. The name *ahau* for Nahuatl *šočitl* "flower" and the confusion with *ahau* "lord" goes further back, to Africa. Arabic *šahḥa* "he became healthy or sound," *šihḥat* "health, soundness of body, freedom from every imperfection," *šahḥ* "healthy, sound" have led to one of the richest developments in the Mande languages. Already in the Berber languages we find Shilha *šḥēḥ*, *šḥīḥ*, *šḥāḥ* "all right," *ššahḥa* "correctness, health, desert," *šahḥu* "to be right, become solid," Kabyl *šahḥ* "to be in a good condition, strong, to gain, be true, fortify oneself, truth," *šahḥeit* "bravo, luck to you, God grant you health," *šahḥi* "to sanction," Zenaga *aḥa*, *iāḥi* "well, in good health." In the Mande languages we have Bambara *tē* "male, man, (good) looks," and the compounds *tēkala* "stout grasses," *tēn*, *tīñe* "truth, right," *tēña* "beauty," *tēñi* "beautiful, gentle," *tēya* "virility, sexual parts." In the Mande languages *t*, from an original *s*, generally changes to *k*, and so we have Bambara *ke*, *kema* "male, fat," *kene* "light, brightness, health, life, vigorous, ardent, fresh, green, new," *keneya* "health, to cure, affirm, consolidate," Malinke *tē*, *ke* "male, husband," *kekañi* "beautiful," *keñde* "what has juice, life,

¹ See Morley's treatment of this event in his *The Inscriptions at Copan*, p. 478 ff.

² Morley, *An Introduction to the Study of the Maya Hieroglyphs*, Washington, 1915, p. 82.

fresh," *keñi* "beautiful," Khasonke *ke*, *he* "man," *kene*, *kende*, *keren* "tender, fresh," *kese*, *keseñ* "brilliant, courageous."

This Mande *ke*, *he* has passed into the Mayan languages as *ah*, *ač*, meaning both "male" and "vigorous, beautiful, young, fresh." Thus we have Huasteca *ahhatik* "master, lord," *ahwel* "power," *ahwil* "to be sufficient," *ahan* "fresh, green, maize," *ahab* "musical instrument," Maya *ah*, 'h "male," *ahau* "lord, king," *ah* "reed, stalk, that which stands," Kekchi *ah* "reed, green, maize," Pokonchi *ah* "reed, master," and, as in Maya, it is a prefix expressing occupation or place, etc. We have it even in Zoque, where we get *heya* "male, flower." In Nahuatl we have only *akatl* "reed."

From this it follows that Maya *ahau*, Kiche *hunahpu*, Tzendal *agwal* for Nahuatl *šočitl* "flower" contain the element *ah* "vigorous, fresh, beautiful plant," and the confusion in Maya with *ahau* is due to the multiplicity of meanings for the same root *ah*. There is no evidence whatever that *ahau* was ever used as equal to a *qatun* of twenty years, as is clearly stated in the Mayan chronicles, hence we must assume that this mistake, like that of *anares* and *anilo*, is of recent date, due to some Spanish misunderstanding, unless the contrary can be proved. Moreover the statement generally made that the Chronicle of Čak Šulub Čen was written by Naquq Peč in 1562, and that, therefore, the references to the *ahau* or *qatun* found in this work are of that date, is incorrect. We have not the original of the Chronicle, but only a copy, and in it we find in §10 the following statement: "This [1552] was the number of the year when I received the rod from my father, Naquq Peč, Don Pablo Peč and of Ursula Peč, here in this town of Čak Šulub Čen."¹ This passage was not written by Naquq Peč, but inserted by his son, Pedro Peč, some time after 1562, when Naquq Peč made the first draft. We may assume that there are other later additions in the text. The very first paragraph hangs in the air, and is followed by the real work of Naquq Peč, who begins with: "I, who am Naquq Peč." It is pretty certain that the preamble, separated from the story by two lines, is not by Naquq Peč. It contains a blunder besides, for it refers to the ninth *ahau* as the time of the introduction of Christianity, whereas Landa, who wrote in 1566, put it in the eleventh *ahau*.

The chronicles that claim that in 1536 there were yet six years to the end of a *qatun* are in full accord with Bishop Landa, who gives what is generally called a *qatun* wheel, with the inscription: "They call this count in their language *waslason qatun*, which means 'the war of the *qatuns*,'" and proceeds to say:

¹ Brinton, *op. cit.*, p. 222 f.

Not only did the Indians have a count of years and months, as has been said, but they also had a certain way of counting times and their things by ages, which proceeded from twenty to twenty years, counting thirteen twenties with one of the twenty letters of the month, which they called *ahau*, but without order and only alternating, as will appear from the adjoining wheel; they call these in their language *qatuns*, and with them they wonderfully counted their ages. It was very easy for the old man, of whom I spoke in the first chapter, to recall things with them three hundred years back,¹ for if I did not know of these counts, I should not think it possible to recall so long a period.

Who arranged these *qatuns*, if it was a demon, he came out of it as usual with honor; if it was a man, he must have been a great pagan, for he added to all these *qatuns* all the great trickeries, divinations and subtleties, by which these people are enmeshed beyond their miseries, and in which they believe most and hold in greatest esteem, and of which not even all the priests were able to give an account. The order of counting their dates and making their divinations, by means of this computation, was this that they had in the temple two idols dedicated to these characters. To the first, in accordance with the count from the cross found above the wheel, they worshipped and sacrificed to for the withholding of the calamities for these twenty years, and for the ten years which were wanting from the twenty of the first they only burnt incense and paid their regards to him. When the twenty years of the first were ended, they began to be guided by the fates of the second and to sacrifice to him, and taking away this first idol, they put up another, in order to worship him another ten years.

For example, the Indians say that the Spaniards came to the city of Merida in the year of our Lord 1541, which was precisely the first of the year *Buluk-Ahau*, which is the one in the division where the cross is, and they came also in the month of *Pop*, which is the first of their year. If there had been no Spaniards, they would have worshipped the idol of *Buluk-Ahau* up to the year 51, which is ten years, and in the tenth year they would have put up another idol, *Bolon-Ahau*, and would have honored him, following the prognostications of *Buluk-Ahau* up to the year 61, and then they would have taken him from the temple and would have put up the idol *Wuk-Ahau* and would follow the prognostications of *Bolon-Ahau* another ten years and thus they would get each in turn. In this way they worshipped there their *qatuns* twenty years and for ten years they were ruled by their superstitions and deceits, which were very great and sufficient to deceive the simple, believing people, but not those who understand natural things and the experience which the devil has of them.²

The large number of blunders contained in Landa's disquisition, though self-evident, shall be discussed here in detail. Landa got his information from an old man, whom he apparently understood as little as the old man understood the Spanish way of counting time. When Landa was informed that the wheel represented "the war of the *qatuns*," he received the correct and fundamental meaning of *qatun*, as will now appear from the history of the *tun*.

¹ This reference is not given in the first chapter.

² *Op. cit.*, p. 312 ff.

2.

IN Maya the *tun* glyph appears in a variety of forms (Figs. 315, 316). It is found in the head form for "five," where it is placed, like a crown, upon the head (Figs. 266, 267). The schematized form of it would be , which is precisely the inscriptional form for "five," from which ultimately develops , the line for the same number. We have an excellent proof of the correlation of this "five" glyph with the sun and, at the same time, with the jaguar-skin heap in the Mexican correspondent to the Mayan celebration of the year-bearers. Cyrus Thomas was the first to point out the fact that pp. 49-52 of Codex Borgia deal with the celebration of the epagomenal years.¹ It is of no consequence to us at present whether his or Seler's explanation of the four pages is correct or not—we can deduce from them the correlation we need. In the lower left-hand corner of each page there is a royal throne above which is one of the four year-bearers, called respectively *nawi kallī*, *nawi akatl*, *nawi tekpatl*, *nawi točtli* "four house, reed, flint, hare." To the left of each the Gods of Syphilis, *makwīl olin*, *eekatl*, *masatl*, *mali-nalli* "five motion, wind, deer, twisted grass," are seated on a jaguar-skin heap. The relation of the epagomenal days to the Deer, which is represented on p. 53 of the Codex (Fig. 133), is based on the fact that the last five days of the year were "useless," hence subjected men to the ravages of lust.

Whatever the origin of "five" in the God of Syphilis may be, the epagomenal days were in thought connected with the jaguar-skin heap, hence they were represented in Maya by the hieroglyph of *tun* topped by a double hook in the inscriptional and one hook in the manuscript form (Figs. 317). In the Mexican Codex Telleriano-Remensis (Fig. 318) the epagomenal days are represented by five hooks, topped by a supposedly spurious sixth. It is necessary to explain the use of the hook in the representation of the "useless" days. In Codex Magliabecchiano (Fig. 319), we have the representation of the Hunting God *Miškowatl*, who holds in one hand a shield and flag, in the other a hook, and the legend says: "in the hand he holds a stick made into the shape of a hook, and they call him *Miškowatl šonokitl*." The latter is recorded in the dictionary as *šonekwilli* "a crooked stick" and is composed of *šotl* "leg" and *nekwiloa* "to make crooked." Seler² identifies *Miškowatl* with the constellation *sitla-šonekwilli*, which is represented in the form of an S, but we also have *šonekwillaškalli*,³ breads baked in the form of an S and

¹ Seler, *Codex Borgia*, vol. II, p. 123.² *Ibid.*, vol. I, p. 260 ff.³ *Ibid.* p. 262.

sacrificed at the feast of *Makwil šočitl*, "Five Flowers."¹ In Codex Tro-Cortesianus the glyph S is found on pp. 40, 41, and in Codex Dresden, p. 68 (Fig. 320), which deal with the "useless" days. The appropriateness of having them connected with the days when abundance was invoked for the coming year² becomes clear when we follow up the meaning of the word (*šo*) *nekwilli*. We have Nahuatl *kwi* "to take," hence *makwilli* "to take the hand, curve the hand, five," hence *nekwilōa* "to curve," but also "to do business, traffic," that is, "to take the (merchants') heap," as is admirably brought out in *kwiltonoa*, literally "to take the heap," but recorded as "to be rich, be in abundance, rejoice," *nekwiltonolli* "wealth, prosperity, joy, satisfaction," *nekwiltonoloan* "place of joy, heaven." That the root *ton* in general meant not only "sun," but also "abundance" is proved by Nahuatl *tona* "to be warm, abundant," *tonakati* "to have an abundant year," *tonakayotl* "nourishment, fruits." Hence the hooks in the glyphs of the epagomenal days refer to the "abundance" which is invoked at that time for the coming year. It will be observed that Maya *wayeb*, the name of the glyph for the epagomenal days, has nothing in common with the pun on which the Nahuatl glyph for the five additional days is based, hence here, as everywhere else, the Mayan glyph is borrowed from the Mexican and not *vice versa*.

We have thus once more come back to the basic idea "heap" in the Nahuatl root *ton*, hence Maya *tun* "stone, precious stone" can only be a secondary development of "heap of stones," and, indeed, we know from Landa that during the epagomenal days the statue of the regent for the next year was placed on a heap of stones. It is now necessary to show how the "abundance," the *baraka* of the Arabs, was transferred in America to the heap of stones. Here, fortunately, the material is very abundant. E. Doutté³ has given a detailed account of the transformation of the ancient Berber stone worship under Mohammedan influence. In northern Africa one frequently meets with monoliths and circles of monoliths representing a marabut and itself becoming a marabut in popular conception, on which passers-by place heaps of five or six pebbles or stones, and from which they expect a *baraka* in return for an *ex-voto*. The only place south of the Sahara where such stone clusters have been found is the country under Mandingo influence along the Gambia, as described by Henry Parker:

With the possible, but doubtful, Timbi exception, I am not aware that there are other circles of worked pillars in Africa to the south of Morocco, and the countries along the south side of the Mediterranean Sea. Even there, the circles are, apparently, formed of

¹ *Codex Magliabecchiano*, p. 81.

² See my *Africa*, vol. III, p. 331 ff.

³ *Magie et religion dans l'Afrique du nord*, Alger, 1909, p. 419 ff.

rough undressed stones, with possibly a few exceptions. The Gambia circles are separated from these by hundreds of miles of the Sahara deserts.

The lithic remains in the Gambia Valley belong to two categories, which, though sometimes associated together, are apparently unconnected. These are (1) circles, of worked pillars—many of which are standing, though numbers are prostrate—which I term Pillar-Circles; and (2) Menhirs, or independent pillars, often occurring far away from any circles. Even when these are found in the neighbourhood of circles, there is no apparent connection between the two classes of remains. There are also numerous worked pillars standing in groups close to many of the circles, and often established concentrically with the stones of the circles, which evidently form part of the adjoining circle-group. In other cases, such stones are fixed in pairs, and more rarely in threes, at varying but short distances away. I refer to them as “outer pillars.” In three instances there are irregular groups of menhirs, commonly in pairs, that appear to be unconnected with the circles, which, however, are not very far from them. I distinguish these groups as “menhir-fields.”

The circles themselves are generally found in groups or clusters comprising from two to nine, but single circles are met with. With one possible exception, there are no uncompleted circles, except those formed by concentric outer pillars standing round an inner circle. One of these outer circles is complete; in another, either two or three stones are needed for its completion; others are in varying stages of development. The groups of circles are arranged in single straight lines; in nearly parallel lines consisting of two, three, or four circles; or in pairs; but never in triangles or pentagons. Many stones are prostrate, and it is somewhat strange that almost invariably these fallen pillars, whether menhirs or belonging to circles, are at least partially buried by the soil which has been raised by the action of earth-worms, or has sunk under the weight of the stone during rainy seasons. Some have their upper face almost level with the ground, and as a rule the others are half or three-quarters covered by the earth, which has usually risen a foot or more, but not quite two feet. Superficially considered, this is the only indication of the age of these structures, and, of course, it would be of great value if we knew the rate of elevation of the soil. Without such knowledge it is only possible to draw the conclusion from this evidence that both the circles and the menhirs must have been erected many centuries ago.¹ (Fig. 321.)

Parker has no explanation to give as to the purpose of these stones, but it is evident that, whatever other purpose they may have served, they occasionally contain remains of chiefs buried there, that they are imitations of the Berber “marabuts,” that is, that they represent the worshipping place of some man standing high in the community, one who in Mandingo parlance is called a *tuntigi*, a lord of the *tun*. We are best informed about the Mande *tun* among the Khasonkes and so will refer to it.² Young people who have been circumcised together are known as *fulaniñ* “pairs.” They form a society *fulantun*, of which the chief is known as *tuntigi*, while the notables are

¹ H. Parker, “Stone Circles in Gambia,” in *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*, vol. LIII, p. 185 f.

² Ch. Monteil, *Les Khasonké*, Paris, 1915, p. 243 ff.

known as *tuntigo*, who, as it were, are the masters of fraternities. We see, then, that they are very important members of the community, and so it is clear that if, as Parker shows, chiefs have been buried amidst the monoliths, the circle of stones was in some way connected with the worship of the dead. But the inner circle of from ten to twenty stones seems to have had some specific and basic significance from which, generally in the east, there were from time to time placed individual stones which numerically, according to Parker, are much less common, hence must have been placed at longer intervals than the first.

Brinton¹ quotes from a *Diccionario Maya-Español del Convento de San Francisco, Merida*, MS.: "Dicese que los Indios contaban los años à pares (*sic*), y cuando llegaba uno à veinte años, entonces decian que tenian *hunpel katun*, que son veinte años." Brinton goes on to say: "I think the words à *pares*, must be an error for à *veintenas*; they may mean 'in equal series.'" There is, however, no mistake in the statement, since in Africa the *tun*, when referring to the society of the circumcised, is known as *fulantun* "the *tun* of pairs," and there is some relation between the stones put up on the Gambia and "pairs," since many stones are put up in pairs, and very frequently one of the stones in the circle is composed of two. The members of the *fulantun* were closely united for life and at war were inseparable companions. The members formed an indivisible whole and certain affairs were carried on by them in a collective manner. For *fulan* we have Bambara, Malinke *kan* "equal, identical, same," Khasonke *han* "similar, identical," apparently from the root *ka*, *kan* "to cut (with a sickle)." Although in the scanty reference to the *fulantun* we have not recorded the form *kantun*, *katun*, we find these in Nahuatl. We have not only Nahuatl *koatl* "snake, hoe," but also "twin," and the derivatives which are applied to precisely the same action as in Khasonke *fulantun*, and as *koateka* "to place the guests at the table," *koamati* "to treat affectionately," *koatekitl* "public work, work done in common," *kotonia* "to give part of one's possession to another," *kotontlani* "to be generous," *kotona* "to cut, divide, wound, sacrifice," *tlakotonani* "one who cuts, sacrifices animals," *kotoktli* "pieces of bread given to a beggar," hence there must have been an Aztec word from the root *koton* for "company, division," such as we have in Maya *qatun* "a battalion, company of soldiers in battle array," hence *qatuntah* "to make war."

We have this root already in Huasteca, where we get for Nahuatl *koatl* "twin" the corresponding *kwahya* "twin," and for Nahuatl *kotona* the corresponding *kotoy* "to cut." Already in Bambara and Malinke the root *ka*,

¹ *Op. cit.*, p. 54.

kan leads to *kani* "to cut" and "to reclaim, beg, ask," Khasonke *kakandin* "alms," that is, we have here the same development as in Nahuatl *kotoktli* "piece of bread given to a beggar." Thus we get Huasteca *konial* "to beg," *konoy*, *konči* "to ask." In Maya the root *kat*, which led to *qatun* "war, battalion," also produced *kat* "to ask, beg," hence *katmat* "to beg alms."

It has already been pointed out that Maya *qatun* was a battalion of soldiers in battle array, and Herrera¹ informs us that when the Mayas went to war, they marched with two wings of their people and a squadron containing the lord and chief priest. In Codex Nuttall (Fig. 279) we have the priest or lord in the middle in jaguar attire, surrounded on both sides by his soldiers and two priests, which illustrates Herrera's explanation. If we now turn to the Mayan glyph of *qatun*, we find the *tun* glyph, which itself is connected with the jaguar skin, topped by the sign *kawak* and flanked by two wings (Fig. 322). *Kawak* is the heavy rain, which is generally connected with the four regions, and as *Tlalok* appears in the four directions. But we as frequently find the *qatun* represented by the *tun* sign (which may be absent), topped by the *oselotl* and flanked by two wings. Instead of the *oselotl* we may have Death or any other representation, such as *Ketsalkowatl*, who takes the place of the central *Tlalok* in the Tableau or *Tonalamatl*. Landa gives *ka* as the sound for the wing-like forms, and this means "two," so that we are brought back to *qatun* as a Maya correspondent of the Mande *fulantun*, which proceeded to war as a body, commanded by its *tuntigi*.

3.

LANDA correctly stated that the wheel was intended to represent, of course figuratively, the war of the *qatuns*, but his idea of the *qatuns* of Maya arithmetical calculation was completely misunderstood by him. That the wheel, as given by him, had no existence in reality as representing a retrogression of *ahaus* by twos and as the count of twenty-year periods, is made at once clear from a study of existing wheels. We possess a number of Mexican fifty-two-year wheels, one such being given by Duran (Fig. 323). From the latter it appears, as explained by Duran himself, that they began the cycle with 1 *akatl* and, passing counter clock-wise to 2 *tekuatl*, 3 *kalli*, 4 *točtli*, returned spirally to 5 *akatl*, etc. After 13 *akatl* came 1 *tekuatl*, etc., and after fifty-two years the cycle was completed, and the count began anew. There can be little doubt that the 13 successive numbers were even here associated with the 13 successive lords of the hours or days, or, what is the

¹ *Decada* IV, libro III, cap. 3.

same, to the 13 successive gods of the heavens. The most interesting Mexican *Tonalamatl* wheel is by Motolinia, made by him in 1549 (Fig. 324). It combines the count of 260 days, of months, and of years in a fifty-two-year cycle. The count of the cycle, as may readily be seen from the divisions in the center, differs from the *Tonalamatl* in that it takes five of the day divisions for the expression of one year, for otherwise the counting is the same.

The extant Mayan wheels of the chronicles, as reproduced by Bowditch,¹ are of various construction. The two in the Čilan Balam of Čib are divided in twelve parts, so that 1 and 13 overlap. Beneath these are the four year-bearers, so that here we have a simple fifty-two-year cycle. In the Čilan Balams of Čumayel and of Kawa there are two wheels arranged like Landa's, the cross between 2 and 13 indicating that the reading began at 13 and proceeded to the right. The wheel in the Čilan Balams of Kawa and Mani is identical with that in Cogolludo² (Figs. 325, 236), except that five names of *ahaus*, namely *Kinčil Koba*, *Yiban Kan*, *Pakab*, *Qan Kaba*, *Qupul*, are in them read downwards dextrally, while in Cogolludo the circle goes forward, from *qatun* 3 on through 1, 12, 10, 8, 6, 4, 2, 13, 11, 9, 7 to 5. If the reading began, not at Ah Napot Šiu, but right below, beginning with 1 *ahau*, and we read to the right we should have the order 1, 3, 5, 7, 9, 11, 13 followed by 2, 4, 6, 8, 10, 12, which were the original two columns of the list, indicating respectively the yearly celebration during the epagomenal days, the odd numbers being those attended to by one priest, while the even numbers belonged to the other. If we turn to Codex Dresden, pp. 25-28, we shall see that the two priests of p. 25 are found in inverted order on p. 26 (Fig. 326), and the same is true of pp. 27 and 28. It follows from this that in a period of thirteen years the odd years would belong to one priest, the even to another.

Landa confused the *Tonalamatl* of days with the cycle of years and thus created the non-existing *qatuns* of twenty years, endowing each with the month *ahau* in a receding order. When Landa tells us that the Mayas put up a new idol every ten years he told an impossible thing even if his twenty-year periods were correct, because that would demand twenty-six and not thirteen *ahaus*. When he proceeds to tell us that 1541 was the first year of 11 *ahau* and that 1551 and 1561 would be respectively 9 and 7 *ahaus*, he, in addition, is schematizing, as Motolinia had before him; hence there can be little doubt that his confusion was due to a misreading of Motolinia and his wheel. Motolinia had written a chapter "of the things which happened

¹ *Op. cit.*, p. 326 ff.

² See Morley, *The Inscriptions at Copan*, p. 482 ff.

in the year 1521 and 1531 and 1541, noted by many and being years of one,"¹ and Landa continued this through 1551 and 1561 and created a year one for his cycle in 1541.

Others, as we have seen, although accepting Landa's newly created *qatuns*, put the first year of the cycle in 1536 or 1537, following another Christian source. G. de Mendieta,² finishing his book in 1596, after having come to Mexico in 1554, tells us that he had had in hand and ordered to be destroyed forty years before a wheel of a Mexican calendar, lest the Mexicans should fall back into paganism, and commanded that from now on the Mexicans were to use the Catholic chronology. But earlier still, in 1536 or early in 1537, Zumarraga³ issued the first general instruction to his procurators before the first universal council, and in §11 pointed out the necessity of light compulsion or punishment by the church for such offences by the Indians as led them back to idolatry. There can, therefore, be little doubt that the reference in the Mayan chronicles to *Ahpulhab's* death is the prohibition by the church of using the native calendar.

The story of *Ah Napot Šiu* is told in Cogolludo as follows:⁴

The Indian who stepped down from the litter was about to ascend from the small slope of the mountains, when Don Francisco saw him and somebody went to receive him. The Indian made a deep obeisance upon meeting with him and was received in a friendly manner, and the General took him by the hand and led him to his quarters. He was the chief lord of those living in this land, called *Tutul Šiu*, descendant of those who were kings of the whole of it, and he ruled over the districts of Mani and its subjects. He came voluntarily to submit himself and to offer himself and his people to pacify the rest, and brought with him a large present of turkeys (which are the chickens of the country), fruit, and provisions, with which the Spaniards regaled themselves, but they were much more pleased to have such a lord for a friend. *Tutul Šiu* said that, moved by the valor and perseverance of the Spaniards, he came in order to become their friend, and that he wanted to be a Christian, and so he asked the General to let him see some Christian ceremonies. A solemn service of the adoration of the Holy Cross was held, and *Tutul Šiu* was attentive and imitated everything the Spaniards did, and went so far as to kneel and kiss it with much show of joy. And great was the joy of the Spaniards, seeing what had happened, and when the adoration was finished, they observed that that day happened to be that of the glorious San Ildefonso, Archbishop of Toledo, January 23, 1541, and so they chose him for their patron, although later they forgot it and there happened what now follows. *Tutul Šiu* was accompanied by his other vassal caciques, whose names I found in an account written by an Indian, which are the following:

¹ Icazbalceta, *op. cit.*, p. 231. ² *Historia eclesiastica indiana*, Mexico, 1870, p. 98.

³ P. M. Cuevas, *Documentos inéditos del siglo XVI para la historia de México*, México, 1914, p. 68 f.

⁴ *Historia de Yucathan*, libro III, cap. 6.

Ah Na Poot Šiu, son of *Tutul Šiu*, *Ah Siyah*, chief priest, *Ah Qin Či*: these were said to be *Tutul Šiu*'s lieutenants in the chief city of Mani. *Yi Ban Kan*, governor of the town of Teqit, *Pakab*, governor of the town of Oskutskab, *Qan Kaba*, of the town of Panab-čen, which now is depopulated, *Qupul* of Sakalum, *Narwat* of Teab, *Ulwak Can Kawič*, it does not say from where, *Son Keh* of Perkuyut, *Ahau Tuyu* of Muna, *Sul Kumče* of Tipiqal, *Tukuč* of Mama, *Sit Kowat* of Cumayel.

Tutul Šiu stayed with the Spaniards sixty days and at parting from them promised to send ambassadors to the other lords, even though they were not his vassals, in order to ask them to submit. Leaving them a large store of provisions he went to Mani, the chief city of his realm, as has been said. The Spaniards saw with unspeakable joy what had happened when they had least expected it, and that as a token of his faith he left them some Indians to serve them. *Tutul Šiu* was not remiss in the execution of his promise, because upon arriving at Mani he realized it. He called together all his Indians and gave them notice of his attention and the friendship and agreement entered into by him with the Spaniards. They all assisted him, since the example of a king is powerful to attach to himself the will of his vassals.

So he despatched as ambassadors those caciques who were with him, to give obedience to the Spaniards and solicit the Lords of Sotuta, called the Kokoms, and the other Orientals, as far as where the city of Valladolid (which they commonly call the territory of the Qupuls), publishing his resolution and friendship entered by him with the Spaniards, in which all his vassals had concurred. He admonished them that they should do likewise, since he saw that they had the intention of staying in the country,—they had already made a settlement in Kampeč and intended to make one at Tihoo. He reminded them that every time that they had a battle with the Spaniards it cost them so many lives of the natives, whom they had seen perishing at their hands, that he had experienced their good will during the days he had stayed with them, and that he preferred their friendship, which he advised them to accept as he had done, considering the damage they would incur if they did in a contrary manner. The ambassadors went to the Realm of Sotuta, and arriving at the capital so called, where the Kokoms lived, and in the presence of *Nači Kokom*, principal lord of that territory, they announced to him the purpose of their embassy. *Nači Kokom* answered that they should await his answer, which he would give in four or five days. During these days he ordered the caciques to summon all his subjects to him and consulted with them in regard to what *Tutul Šiu* had informed him. They passed a resolve contrary to all reason and justice, and a truly infamous treason.

They decided to celebrate a great hunt, as if to feast the ambassadors and please them with it, and, taking them under this pretext from the town to a dense forest, brought them to a region called *Otsmal*, where they feasted them for three days. During the end of the celebration, on the fourth day, they gathered together under a great tree called in their language *yaa* and in Spanish *zapote*, and there continued the dances and rejoicings of the previous day, the sequel of the meal having been intended to be the decapitation of the ambassadors, thus violating the sacred right belonging to them. They reserved *Ah Qin Či*, as one of the most important personages, to carry the news to *Tutul Šiu* of what had happened to them and that such was the reception of his embassy, vituperating him with great scorn as being a coward. The barbaric cruelty did not except even him, although

they left him alive, for they deprived him of his eyesight with a dart, and four captains of *Nači Kokom* took him to the territory of *Tutul Šiu*, where they left him with all secrecy and returned home. The miserable fellow, having been left alone, cried out aloud for some one to come and help him. His fate willed it that some Indians should hear him, and they found *Ah Qin Či* in the plight referred to and brought him to *Tutul Šiu*, where he reported the sad tragedy that befell the ambassadors.

This incident was the beginning of the perilous battle which Bachelor Valencia refers to in his account (and I shall soon give it), but he does not mention the incident which led to it, for he says only that the people of Sotuta and the other Orientals whom they call Qupuls, did not want to accede to *Tutul Šiu's* proposition, but rejected his resolution and that of his followers, and that they did not care to listen to them. But they were determined not to obey the Spaniards, against whom they now made a new confederation. I can certify to this, and there is now a patent in the Case Real of Mani, and they have the incident blazoned on their coat of arms and they pride themselves greatly upon it and tell of the case as I have related, and that they would not have preserved the memory of it, if it had not happened in this manner. Besides, in a royal rescript of September 6, 1599, given Monreal, in which it refers to another of the year 1593, there is mention of this incident, since by these rescripts the King gave 200 pesos of aid to Gaspar Antonio, the Indian, both for being the Interpreter General of this government and for being a grandson of *Tutul Šiu* and son of *Ah Qin Či*, whom they deprived of his vision by an arrow, and this aid to be privileged in connection with those which he may have received from the Spaniards and, in case of his death before it was executed, to be transferred to one of his grandchildren, but without transference to any other person. In some ancient paper it says that *Tutul Šiu* went personally to the Kokoms and was one of those killed. These writings are replete with confusion and do not deserve any credit, I caution, if anybody has them, because the *Tutul Šiu* whom the Kokoms killed, from which dates the enmity between these two lineages, seem to have existed in previous times, nor would the people of Mani have kept silent about the death of their lord. This incident is painted as printed here, although the Indian who painted it made a mistake in the Spanish date, when he put down the year 1536, which is impossible, as may be seen from the above, and must be 1541, as has been said.

The story of the death of the Thirteen Lords was already current one hundred years earlier. In 1577 the Spanish government made a series of inquiries about conditions in Yucatan, and the answers received in 1579-1581 contain some important information in regard to our matter.¹ From Merida came the information that the city was built in four native districts of which the principal was in the south and was called *Tutulšiu*, which was a Mexican name.² *Tutulšiu*, of which the capital was Mani, had peacefully received the Spanish conquerors.³ Its chief lord in 1541 was *Močanšiu*.⁴ The people of

¹ *Colección de documentos inéditos relativos al descubrimiento, conquista y organización des las antiguas posesiones españolas de Ultramar*, tomo num. 11, vol. I.

² *Ibid.*, p. 38.

³ *Ibid.*, p. 44.

⁴ *Ibid.*, p. 45.

Mutul had a tradition that their first lord was a captain by name of *Sakmutul*, which meant "white man," although he was an Indian. He and his descendants had reigned for 140 years, when a new lord and captain, called *Rarupakal*, came to Mutul with an army and destroyed the town, and then, after many years a new captain *Noh Kabal Peče*, a near relative of the great lord of Mayapan, came and conquered Mutul, since when his descendants had been ruling, the ruler in 1781 being *Juan Peče*.¹ The priests of Kotuta and Tibulon were called *alkin*.² Tekauto and Tepakan were anciently under the dominion of Čičen Itsa, but later *Tutulšiu* became king.³ Čičen Itsa had not been idolatrous before *Ruralkan*, a Mexican captain, came and taught them of one creator of all things, the creation of the heavens and the earth, the fall of Lucifer, the immortality of the soul, hell, and the great flood.⁴ The town of Kakalčen was in its pagan time ruled by *Načanpeče*.⁵ The town of Čunčuču had at first been governed by Čičen Itsa, and later by a *Tutulšiu*, whence came the lords of Mani, until the provinces divided up and were ruled by separate masters. Then follows almost a verbal repetition of what was said under Tekanto.⁶ At San it was reported that there were now many separate caciques, but that formerly the whole land was under a *Tutulšiu*, who had them all under his dominion, and that it was he who instructed them in letters and the knowledge of the months and years which the lords of Mani used when the Spanish conquerors entered the country.⁷ Mama had been subject to a lord *Tutulšiu*, which was a Mexican name, and was reputed to have been a stranger, having come from the West and being chosen by common consent as king. Before that they had been subject to *Kokom*, who had been the native king of the region.⁸ Practically the same is said of Tekal, except that *Kokom* is not mentioned, and it is stated that when the Spanish conquerors arrived there was no king, but only a number of caciques.⁹ The same, but more elaborately, is told of Sikontum,¹⁰ of Kisil,¹¹ of Kitelkam, where *RulRan* is substituted for *Tutulšiu*,¹² of Susal.¹³ At Kinakama the ruler was anciently called *Ahkunpeče*, which means "subtle man." Some eight hundred years back they had been converted by the Mexican *Ketsalkowatl*.¹⁴ Nearly the same account is given at Isamal¹⁵ and at Tiav, but the first ruler had been called *Hunwiqilčik*, Lord of Ušmal:¹⁶

At one time the whole country had been under the dominion of one lord, but with the vicissitudes of times, which had been many, the last master was *Tutulšiu*, from whom

¹ *Colección de documentos*, etc., tomo num. 11, vol. I, p. 77 f.

² *Ibid.*, p. 95.

³ *Ibid.*, p. 120 f.

⁴ *Ibid.*, p. 121.

⁵ *Ibid.*, p. 129.

⁶ *Ibid.*, p. 147 ff.

⁷ *Ibid.*, p. 156.

⁸ *Ibid.*, p. 161.

⁹ *Ibid.*, p. 177.

¹⁰ *Ibid.*, p. 200 ff.

¹¹ *Ibid.*, p. 214 f.

¹² *Ibid.*, p. 225 f.

¹³ *Ibid.*, p. 242 f.

¹⁴ *Ibid.*, p. 254 f.

¹⁵ *Ibid.*, p. 270 f.

¹⁶ *Ibid.*, p. 287.

descend the natural masters of said town of Mani of the royal crown, and he subjected all the lords of the land more by gentleness than by war. They say that the first of them was called *Hunwĩqilčik*, Lord of Usmal, a very ancient city and most distinguished by its buildings, a native of Mexico, and from there he found entrance to all the other provinces, and it is particularly said of him that he was very wise in natural things and in his time taught the letters which were used in said province of Mani, when the conquistadores entered the land, and slowly the said *Tutulšius* came to rule the country much to the pleasure of the natives. When the Spaniards entered these provinces, there were many lords in the province, and each town had its caciques and rulers, and single provinces had divided into many, according to the wars which the masters had among themselves, until the Spaniard, as above mentioned, entered these provinces. The lords of this land were most obedient and, although they ruled with little wrath, they executed justice and rigorously punished through their priests the vices and sins which they had among themselves. One province fought with another, and said Province of Mani always had a war with the people of Kotuta, with a lord from among the ancients of the land, called *Nači-Kokom*, on account of the old enmity which the *Kokoms* had for the *Tutulšius*, since they claimed to be the native lords, while the *Tutulšius* were strangers. After the entry of the first conquistadores, whom the people of Mani received peacefully and without any resistance, giving obedience to His Majesty, said *Nači-Kokom* killed treacherously more than fifty lords of said Province of Mani, as they passed his province unarmed, bent on a pilgrimage, and besides cut their heads off and took out the eyes of *Ah-Rulelči*, who was the chief among them, because said lords of Mani had received the captains of His Majesty in peace and without any resistance and had let the Spaniards into the land although they were strangers and of another faith.

Most accounts proceed from one source, in which there was reference to the mildness of manners (*maña*) of the people of Mani, who yielded obedience to the Spaniards in 1541, and who were descendants of an ancient king *Tutulšiu*. The friendliness of the people of Mani was due to the previous gentle methods of the Spaniards toward them. Jacobo de Testera had preached Christianity in Yucatan soon after 1534¹ and had found the Indians tractable. "He began by preaching to the children of the chiefs, as he had done in Mexico, and he carried on divine services with his companions and these Indians, and they worked to break the people of the country from the service of the idols, and many people joined them." But the Spanish soldiers interfered with the good work of the friars, and even went so far as to sell to the Indians of Čopupoton idols brought or taken away from other parts. Toribio Motolinia says that Antonio de Ciudad Rodrigo sent in 1537 friars to Tabasco, Čampoton, Kampeče, and other places of Yucatan. Here they stayed two years and found in the people great readiness for the Chris-

¹ Mendieta, *op. cit.*, p. 380 ff.

tian faith. It was again Toribio Motolinia who in 1542 renewed his efforts to convert the Indians of Yucatan.

The names given by the Spaniards to places and provinces frequently rest on a misunderstanding, as in the well-known case of the meaning of Yucatan. That the people of Mani considered themselves to be descendants of a *Tutul Šiu* there can be no doubt, but that there had been a province of *Tutul Šiu*, as first mentioned by Montejo, there is considerable doubt. Landa's account of the *Tutul Šius* and *Kokoms* is exceedingly hazy. According to him one of the house of the *Kokoms* took the reign in Čičen Itsa when its Mexican ruler *Kukulkan-Ketsalkowatl* left for Mexico. Meanwhile the gentle *Tutulšius* had settled at Mayapan. Having themselves learned the use of arms from the Mexicans, they slaughtered the tyrannical *Kokoms*, all but one, and themselves became the rulers of the land. We have already seen that in the Chronicle of Mani *Tutul Šiu* is a pendant to *kante anil* "four years," that is, the Tableau. This connects, as all accounts agree, the people of Mani with *Ketsalkowatl*, but in all Mexican accounts *Ketsalkowatl* is the gentle ruler, who brought the sciences and peace to the people. Now *Kokom* is originally a Nahuatl word, derived from *kom(onia)* "to flame up, rebel," and so we have here the original conflict of *Ketsalkowatl* with *Yowaltekutli* at the ball game, now set in a historical setting. That *Kokom* was really the name of Čičen Itsa kings does not change the matter, for his other name, *Hunak-ul*, has no better connotation, since it means "testiculis praedatissimus."

Neither Landa nor any other writer before Cogolludo knows anything about the inverted story of the slaying of the *Tutul Šius* by the *Kokoms*, but that such a story was already current in 1581 is proved by the account at Tiav. Moreover, Cogolludo gives us the definite statement that in 1593 a grandson of the ruling king of Mani in 1541 had received pay from the Spanish government not only because of his service as an interpreter general, but also because of his father's blindness. Here again the interpreter could well have claimed such antecedents, since the story had already been popular in 1581, although not yet definitely connected with the slaying of thirteen ambassadors. The ruling house of Mani stood in good repute with the Spanish government for having meekly submitted to Spanish dominion, and in giving the interpreter as a coat of arms the Tableau of the Bacabs, which his ancestors had surrendered in 1536, and acknowledging as historical a myth which had already been taking shape as history, the Spanish government only repeated what in Europe had been done more than once.

We know only that paganism was by the people of Mani abandoned in 1536—*AHPULHAB NAPOT ŠIU* DIED IN 1536!

In Cogolludo's account of the murdering of the men of Mani by the *Kokoms* there are fourteen, not thirteen, men, there being the additional *Ah Siyah*, chief priest.¹ The picture in Cogolludo shows that there should be only thirteen, hence it is pretty clear that the original drawing had thirteen heads, the place of *Ahpulhab Napot Šiu* being taken by *Ah Siyah*, while *Ahpulhab Napot Šiu* was the inscription of the whole, which in later forms of the picture took the place of one of the two priests attached to the yearly celebrations and ousted the attendant priest. We know from a large number of accounts that *Ah Qin* (*Či*) was one of the two priests of the four years, and Landa tells us distinctly that the chief priest was *Ah-Qin-Mai*, hence "chief priest" should be attached to the latter, leaving *Ah-Siyah* as the attendant priest. *Ahpula*, *Ahpulha*, *Ahpulhah*, as he is variously given, died in 1536, and Morley and others wrongly etymologize the name as "water-carrier," where it should be "year-bearer," since *ahpul* is equivalent to *kuč*, and *ahpul-haab* to *kuč-haab*. Again, *Napot Šiu* can only be the same as *kante anil tutul-šiu*, and is the Nahuatl *Nappantli Šiu* "the four-fold years," so that the whole means "The year-bearers of the four-fold years came to an end in 1536," in other words, the rulers friendly to the Spaniards abandoned their paganism, that is, their Thirteen Lords and the wheels of pagan years, as was demanded by Zumarraga early in 1537, and as Motolinia, who represented him in Yucatan at that time, tried to effect for the Mayas while others at that time were accomplishing it in Mexico.

If we look at Toribio Motolinia's Mexican wheel, we see that the beginning of the *tonalamatl*, as used for the years, begins with "principio *xiuitl*," preceded by a cross. This "principio" of the first year among the Mayas was *Ah-Qin-Mai*, and the first lord, corresponding to the Mexican *Šiuhtekutli*, was *Ahauh-Qin-Či*, who in the original picture had his face preceded by a cross. In the pictures of the same story, as it has come down to us, the chief priest with his odd years, and the attendant priest with his even years, were separated, giving rise to the alternate years *ahau*, read in a contrary direction, and producing, after 1536, the absurd and impossible *ahaus* and *qatuns* of the chronicles, for which there is not one authenticated proof in monuments belonging to a previous period. The cross turned into an arrow, the

¹ P. A. Means, *History of the Spanish Conquest of Yucatan and of the Itzas*, Cambridge, 1917, p. 51, puts a comma between "gubernador" and "sacerdote" and makes *Ah Siyah* a governor and *Ah K'in Ci* a priest, but that would be the only case where the office would stand before the name.

thirteen *ahaus* become ambassadors from "gentle" *Tutul Šiu* to the "rebel" *Kokoms*, and, as the picture clearly showed, were decapitated under a green tree, and only blind *Ah Qin Či* came back to tell the story. The sequel of the story took place in the twentieth century, when Morley and Spinden took the year of the death of *Ahpulhab Napot Šiu* for the basis of their correlation of Mayan and Christian chronology!

4.

THE basis of Morley's and Spinden's correlation is, after all, not so great a mistake, since it is immaterial whether *Ahpulhah* is a person or a myth, so long as he is connected with the year 1536. But their works are replete with other blunders, due to the identification of the *qatuns* with twenty-year periods, and to a curious logic, which from the start vitiates their conclusions.

In Spinden's *The Reduction of Mayan Dates*¹ the purpose is stated as follows: "In the present paper the correlation between the Mayan calendar and our own calendar will be explained, and astronomical evidence from the ancient inscriptions will be presented to prove that the time-counts of the Indians were carried forward logically and without a break from an inauguration of the perfected calendar in 580 B.C., until the autos-da-fé of Bishop Diego de Landa in Yucatan destroyed the collections of Mayan books nearly 2150 years later (1561 A.D.)."² Spinden begins by explaining the *tonalamatl* or *tsolkin* of 260 days, which arises from applying the thirteen first numbers to the twenty-day names, where the same sequence will occur after $13 \times 20 = 260$ days. Here he might, at least for a parallel, have mentioned the fact that the thirteen-day week, upon which the Mayan and Mexican calendars are based, is the usual African, more especially Berber and Guinean, time division, inherited from the Arabic lunar mansions of thirteen days, which themselves are derived directly from the Hindu *nakshatras*.³ To anyone not blinded by the preconception, such as lies at the base of the reasoning by the American School of Archaeology, that the same phenomena arise independently in various parts of the world, there is nothing significant in obvious facts of similarity and philological corroboration, hence it is not to be wondered at that Spinden did not even refer to this important coincidence. Brinton⁴ long ago observed that "the number thirteen had a sacredness attached to it, from its frequent use in the calendar.

¹ H. J. Spinden, *The Reduction of Mayan Dates*, in *Papers of the Peabody Museum of American Archaeology and Ethnology*, vol. VI, no. 4.

² *Ibid.*, p. 4.

³ See my *Africa*, vol. III, p. 270 f.

⁴ *Op. cit.*, p. 130.

It appears from a passage in the *Popol Vuh* that the Cakchiquels, Pokomans and Pokonchis also divided their tribes into thirteen sections (*Popol Vuh*, p. 206). In the Maya language, 13 is also used to signify a great but indefinite number: thus *oxlahun cacab*, thirteen generations, is equivalent to 'forever'; *oxlahun pixan*, thirteen times happy, is to be happy in the supreme degree; more remote from customary analogies is the phrase for 'full moon,' *oxlhaun caan u*, literally 'the thirteen-sky moon,' the moon which fills with its light the whole sky." The last, *oxlahun kaan u* "the thirteen-sky moon" is really the basis for the whole development of the "thirteen" number in Central America since it clearly refers to the whole sky with its thirteen mansions.

Spinden is of a very high opinion of the Mayan civilization. The Mayan astronomers surpass in astronomical prowess the Chinese He and Ho and the Greek Thales.¹ They were even greater mathematicians than the Hindus and Arabs, for "it can now be shown that the Mayas discovered and developed place-value notation a clear thousand years before it was put in practical use anywhere in the Old World. And place-value notation is the *sine qua non* of modern arithmetic. In this connection it may be noted that our modern decimal system of numbers arranged in degrees of value, which bears the name Arabic, seems to have been invented in India about the seventh century A.D. Some of the figures belong to earlier times, but the place-value scheme was not known to the early astronomers of India who flourished in the fifth and sixth centuries."² Here again one not under the spell of the American School of Archaeology would at once be struck by the new coincidence, after that of the number "thirteen," and would find in the place-value notation a plausible cause for assuming that the Mayan civilization is later than the significant place-value notation discovery by the Arabs and most likely of the same African origin as the zodiac of thirteen day mansions. Spinden, it appears, gets his corroboration of the marvelous Mayan mathematics from a great mathematician himself, and here we can follow the cat-chasing-its-tail method to perfection. F. Cajori³ writes: "The Maya of Central America and Southern Mexico developed hieroglyphic writing, as found in inscriptions and codices dating apparently from about the beginning of the Christian era, that ranks 'probably as the foremost intellectual achievement of Pre-Columbian times in the New World.' Maya number systems and chronology are remarkable for the extent of their early development. Perhaps five or six centuries before the Hindus

¹ *Op. cit.*, p. 57.

² *Ibid.*, p. 15.

³ F. Cajori, *A History of Mathematics*, New York, London, 1919, p. 69 f.

gave a systematic exposition of their *decimal* number system with its zero and principle of local value, the Maya in the flatlands of Central America had evolved systematically a *vigesimal* number system employing a zero and the principle of local value." Cajori gets his information from S. G. Morley's *An Introduction to the Study of the Mayan Hieroglyphs*, which he quotes in the footnote. Spinden adds the information on Hindu arithmetic from Cajori, and the circle is completed. Here again, Spinden must have observed that zero was first introduced into Europe and Africa by the Arabs, and that without it no place-value notation is possible, hence the Maya civilization for the third time falls in line with the Arabic civilization and plausibly may be connected with it. To prove the antiquity of the place-value notation in written documents, Spinden discusses the Dresden Codex, where unfortunately there is, according to him, a series of dates which differ by a thousand years and the antiquity of which, however, must be established. *En passant* he informs us that "the Dresden Codex probably dates from the end of the tenth century."¹ This precious information he got from Morley,² who says: "There is a wide range of time covered by these Initial Series; indeed, from the earliest 8.6.16.12.0 (on p. 70) to the latest, 10.19.6.1.8 (on p. 51) there elapsed more than a thousand years. Where the difference between the earliest and the latest dates is so great, it is a matter of vital importance to determine the contemporaneous date of the manuscript. If the closing date 10.19.6.1.8 represents the time at which the manuscript was made, then the preceding dates reach back for more than a thousand years. On the other hand, if 8.6.16.12.0 records the present time of the manuscript, then all the following dates are prophetic. It is a difficult question to answer, and the best authorities have seemed disposed to take a middle course, assigning as the contemporaneous date of the codex a date about the middle of Cycle 9." This Alice-in-Wonderland logic, transferred to European conceptions, would run something like this: "If a book dealing with the crusades contains dates from 1100 to 1300, it was written either in 1100 or 1300, but the best authorities would place it in 1200. If, however, the title-page contains the date 1925, then it was written in 1100 or 1925, but the best authorities would place it in 1500." One must be grateful to Spinden for his moderation, for he also finds in the so-called serpent numbers of the Dresden Codex numbers that run back something like 36,000 years. Here, after the correction of errors in the manuscript, he modestly informs us that "the indications are that the vast numbers of days in the serpent folds were counted in the

¹ *Op. cit.*, p. 26.

² *An Introduction to the Study of the Mayan Hieroglyphs*, p. 271 f.

future, in some astronomical calculation."¹ If it were not for this positive bit of information, we should, following Morley's prescription, have assigned the authorship of the Dresden Codex to something like 18,000 years B.C.

Probably the most interesting bit of information is given by Spinden about the astronomical congress at Copan in 503 A.D., which abounds in "maybes" and exquisite speculation:

The figures of the astronomer-priests, if the hypothesis proves acceptable, are pleasingly attired. They wear head-dresses which are turbans or animal heads. Their breast plates are bars, jaguar heads, etc., of jade combined with beads. Feather capes are commonly worn as well as ear-plugs, wrist-bands, ankle-bands, and girdles with aprons attached. In their hands the astronomer-priests carry objects which may be ceremonial offerings or perhaps some simple instrument used in observation. We know from the pictures in ancient books from southern Mexico that the observations of stars were made through forked sticks sometimes set up in the door of the temple.

The hieroglyphs upon which these human beings are seated may give (*a*) the names of the individuals, (*b*) the cities or tribes they represent, (*c*) the religious society or craft or line of research which they represent. One difficulty is that only a few hieroglyphs are repeated in a clearly recognizable form in the different monuments. In the case of Altar T there is also the difficulty that some of the figures are anthropomorphic birds and animals. But these might represent constituent tribes in the Mayan nation: one figure representing a bat may stand for the Tzotzil or Bat People. It is at least an interesting field for speculation whether or not the monuments dealing with the counting of Pop in order do not memorialize an astronomical congress.²

How Alice would have enjoyed this fantastic story, especially if Lewis Carroll had added: "Maybe it represents the Follies of 503 or the follies of 1924."

All the data about *qatuns* (*ahaus*) in the Mayan chronicles are of no avail whatsoever for a correlation, because, although contemporary events after 1536 may be correctly given by the chroniclers, we have no information as to how the past events were figured out in terms of *qatuns* as understood by them. Data which came within the memory of the oldest men, such as the abandonment of Mayapan, were determined by calculating the period of sixty years as three *qatuns*, but were long past ages, such as the coming from Tulapan, reckoned from the knowledge of years past, or were the years past figured out from some ancient method of time keeping? According to Morley the Mayas left Tulapan in 176 A.D., while according to Mexican sources *Ketsalkowatl* is placed at Tula in the eleventh or twelfth century, after which only could have taken place the Mayan civilization, if the correlation of the Mayan chronicles with *Ketsalkowatl* is correct. If the end of the

¹ *Op. cit.*, p. 29.

² *Ibid.*, p. 141.

twelfth century be taken as such a possible date, we have, instead of 240 years from 1536, in reality 1360 years, which is more than five times the Mexican period. Let us for a moment assume that we expect the period in Yucatan to be exactly five times that in Mexico; in that case we should get the equation

$$\begin{aligned} 5x &= 1536 - 176 \\ x &= \frac{1360}{5} = 272 \end{aligned}$$

hence 1268 would be the date on which the Mayas left Tula. This would necessitate the reduction of a *qatun* to exactly four years, and this was precisely the case with a *qatun*.

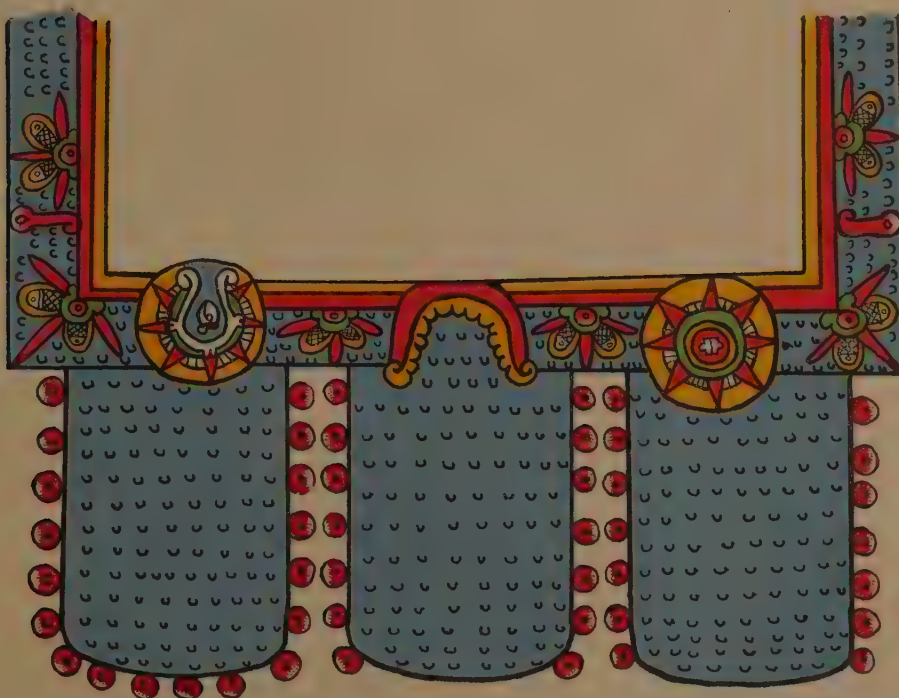
Motolinia assures us that his spiral wheel was used in Mexico for the calculation of years as well as days, and in the first case it was necessary to take five divisions for one year. Thus a *tonalamatl* of 260 days also served for a cycle of 52 years. But the Mayas very early used a shorthand way of calculating time, by attaching the day and month count of 18×20 days to that of *tuns*, which themselves ascended by twenties to a higher division. Thus they had a continuous count of *tuns*, even though they never reached the concept of continuous time. A *tun* was a "stone," an abstract unit, which originally was identical with "day," from the Bambara *don* "day," but since Bambara *tuñ* originally meant "heap" it also meant "heap," as preserved in Nahuatl, while in Maya *tun* "heap," when given as a glyph, was equal to "five," but it took five "stones" to count as one year. This was clumsy in one way and convenient in another. By placing the count of abstract "stones" by fives above the *winals* and *qins*, and considering for matters of calculation the "stones" as years they received an abstract chronology five times the real value, which none the less made it possible to locate a given cycle of 52 years definitely though not in conformity with reality. The Mayas, as has been said, never rose to the concept of consecutive time beyond the 52-year cycle, hence arranged time merely by differences from a given final date. This necessitated the withdrawal of period rounds of 52×365 days, which would have surpassed the capacities of the Mayan mind, if they did not consecutively record the fivefold time, and so they merely had occasionally to add one round to the recorded old calculation, in order to get into the new cycle. The many variations to this one method do not interest us here, except the fact that they never counted by twenty-year periods, as resulted after the Spanish occupation from a desire of turning Mayan abstract numbers into European definite time. The Mayan

numbers record the placing of *hotuns* and *qatuns*, which was by five *tuns*, that is, single years, the *qatuns* being originally placed every fourth year, or, as Naquq Peč has it, "at each twentieth stone they came to place the town stones."¹ If it be assumed that there was no interruption in the placing of the town stones, the number recorded must be divided by five, in order to get the Christian chronology. If there was any interruption or change, we have no chronology at all. The *winals* and *qins* were added in order to turn the count of *tuns* to advantage in determining dates within a fifty-two-year period, in which case, and only in this case, each *tun* stood for 360 days. To get at a date the Mayas added days to the last recorded number, subtracted the complete period rounds which were useless, added a number corresponding to the days to be added, in order to reach the new point desired, or subtracted such a number, if in getting rid of the period round they shot too far, and the real dates, otherwise recorded, had something to hang on, although not starting from a fixed point in time. If the number was a snake number of enormous proportions, the same process was pursued, and no other inconvenience was involved than the exclusion of a greater number of period rounds. The same would be true, if the initial number were much smaller than the one originating from the counting of *tuns* "stones," of which in reality it took five to make one year. In counting the years, it was immaterial whether they stood for 365 or 360 days, since the reference was only to the placing of the stones, and this was not dependent directly on the count of days, but on the established return of the ceremonial year.

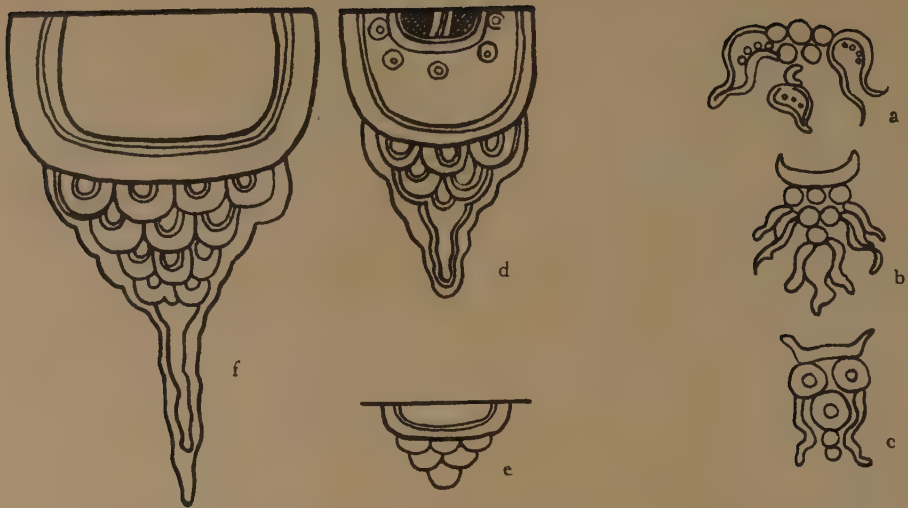
¹ Brinton, *op. cit.*, p. 221.



1. Representations of rain in Sahagun's *Historia de las cosas de España*: a) for the sign *atl*, p. 35; b) for the sign *kiawitl*, p. 35; c) from the sky, p. 25; d) as a rain god, pl. 12; e) as a digitate cloud formation, in Codex Vaticanus No. 3773, p. 2r.



2. Sky with sun, moon, and *tonalamatl* formation and descending rain (human forms omitted), in Codex Nuttall, p. 2.



3. Representation of rain, in inscriptions at Copan, from Maudsley's *Archæologia centro-americana*: a) rain descending in drops, p. 68; b) with schematic sky, *ibid.*; c) assuming the semblance of a face, *ibid.*; d) with the sign *tun*, *ibid.*; e, f) rain from the schematic sky, *ibid.*



4. Conventional fire rain, in Codex Vaticanus No. 3773: a) with arrow, shield, stone, cross bones, and death descending, p. 69; b) with imbricated sun design, *ibid.*



5. Conventionalized fire rain, in Codex Borgia, p. 27.



a



b

6. Maya representation of the sky with cross bones, commotion, and night, in Codex Tro-Cortesianus: a) p. 40, b) p. 41.



a



b

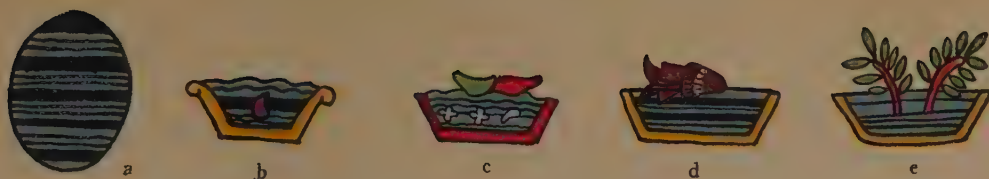


c

7. Fire water descending from the sun: a) in Codex Borgia, p. 2; b) in Codex Vaticanus No. 3773, p. 11; c) *ibid.*, p. 3.



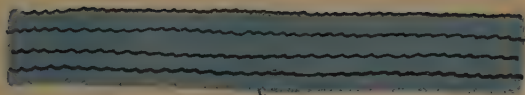
8. Water in the Tula relief of the Malinche Hill, with shell appendages, from Peña-fiel, *Monumentos del arte mexicano antiguo*, pl. 154.



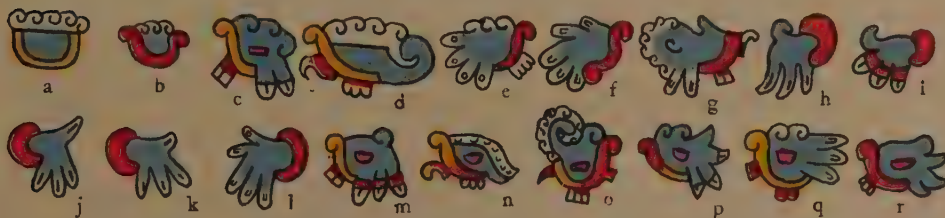
9. "Water" in Aztec geographical names represented by parallel lines, in Peñafiel, *Catálogo alfabético de los nombres de lugar pertenecientes al idioma nahuatl*.



10. "Water" topped by the glyph, in geographical names, *ibid.*



11. Water, in Codex Fejérváry-Mayer, with rippling edge: a) p. 3; b) in digitate form, p. 27; c) with bivalve and shell, p. 33; d) p. 4.



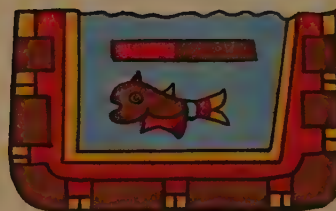
12. "Water" glyphs, in Codex Fejérváry-Mayer, represented by a rippling in the vessel: a) p. 8, b) p. 44; changes into semblance of a bird: c) p. 20, d) p. 17, e) p. 28, f) p. 27, g) p. 23; with the aspect of a hand: h) p. 35, i) p. 41, j) p. 37, k) p. 36, l) p. 23; with shell eye: m) p. 35, n) p. 33, o) p. 40, p) p. 39, q) p. 39, r) p. 38.



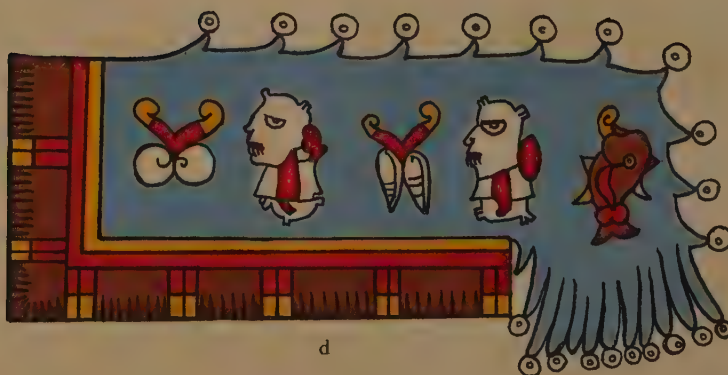
a



b



c

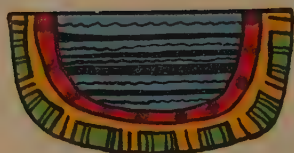


d

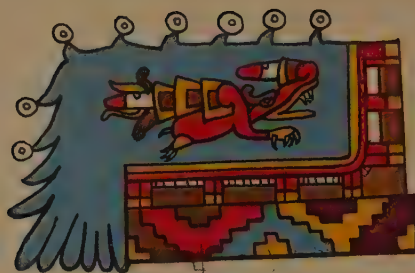
13. Water, in Codex Nuttall, with fishes, snakes, crabs, and shells: a) p. 16, b) p. 36, c) p. 43, d) p. 49.



14. Water, with fish, snake, crocodile, and shells, in Codex Nuttall, p. 75.



a



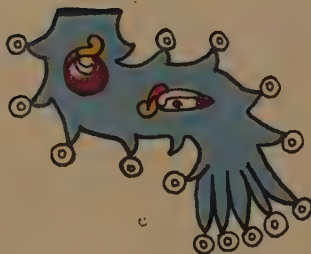
b



c



d



e



f

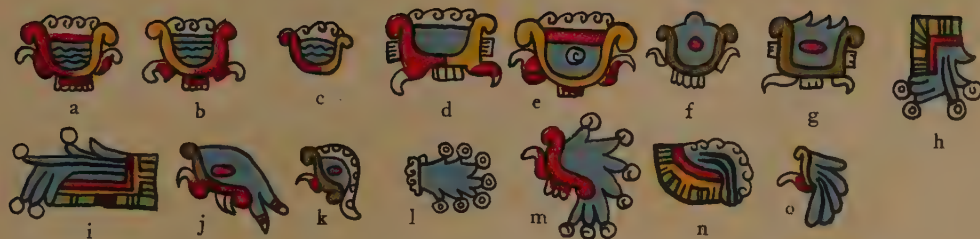


g



h

15. Water, as a blue field with alternating black lines, in Codex Nuttall: a) p. 64; with "water" glyph and shells: b) p. 64, c) p. 9, d) p. 69; with double shells: e) p. 49, f) p. 33, g) p. 23, h) p. 22.



16. "Water" glyphs, in Codex Nuttall: a) p. 34, b) p. 25, c) p. 24, d) p. 42, e) p. 35, f) p. 66, g) p. 53, h) p. 11, i) p. 11, j) p. 77, k) p. 69, l) p. 72, m) p. 32, n) p. 13, o) p. 11.



17. "Water" glyphs, in Codex Borgia: a) p. 18, b) p. 21, c) p. 17, d) p. 1, e) p. 4, f) p. 26, g) p. 13.



18. Water and "water" glyphs, in *Tonalamatl* of Aubin Collection: a) p. 5, b) p. 18, c) p. 6, d) p. 4, e) p. 3, f) p. 21, g) p. 18.



19. Water and "water" glyphs, in Codex Borbonicus: a) p. 15, b) p. 12, c) p. 12, d) p. 3; in Codex Telleriano-Remensis: e) p. 8r., f) p. 9v., g) p. 41r.; in Codex Bologna: h) p. 1, i) p. 3, j) p. 4, k) p. 5, l) p. 6, m) p. 8.



20. The moon vessel: a) in Codex Magliabecchiano, p. 4v.; b) with hare inside, in Codex Vaticanus No. 3773, p. 29.
21. Moon vessel with obsidian knife, in Codex Borgia: a) p. 18, b) p. 58.



22. Obsidian knife, hare, and moon god, in Codex Vaticanus No. 3773, p. 54.



23. The same, in Codex Borgia, p. 66.



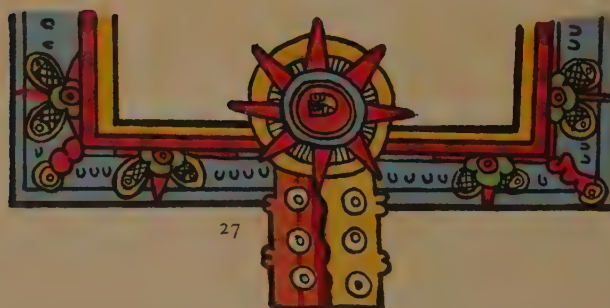
24. Moon goddess with *teksistli*, in Codex Borgia, p. 11. .



25. The same, in Codex Vaticanus No. 3773, p. 30.



26. Conventionalized moon, in Codex Nuttall, p. 14.



27. The sky with sun and moon device, in Codex Nuttall, p. 21.

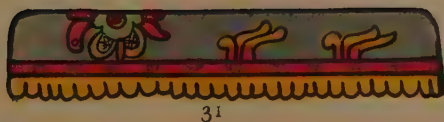


28. "Star eye," from Seler, *Abhandlungen*, vol. I, p. 663: a) in Vienna MS., b) at Mitla.

29. Moon device, in Codex Nuttall, p. 33.



30. Starred sky with moon device, *ibid.*, p. 75.



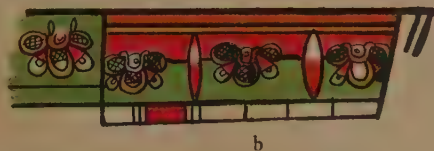
31. Moon device with "fire" sign, *ibid.*, p. 16.



32. Imbricated sky design with pitcher, in Codex Fejérváry-Mayer, p. 36.



33



b

a



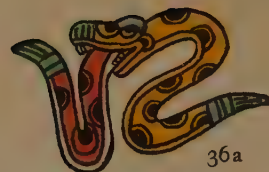
34

33. Moon device, in Codex Borgia: a) p. 31, b) p. 40.

34. Moon device with "death," in Codex Nuttall, p. 10.



35. Snake cut by arrow, in Codex Borgia, p. 9.



36a

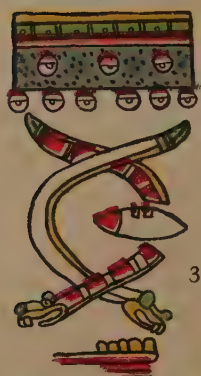


36b

36. Snake swallowing snake, and lightning, *ibid.*, p. 20.



37a



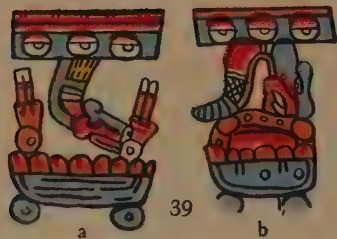
37b



38

37. Snakes descending from the sky, *ibid.*: a) p. 3, b) p. 5.

38. *Tlalok* with snake, in Codex Vaticanus No. 3773, p. 43.



a

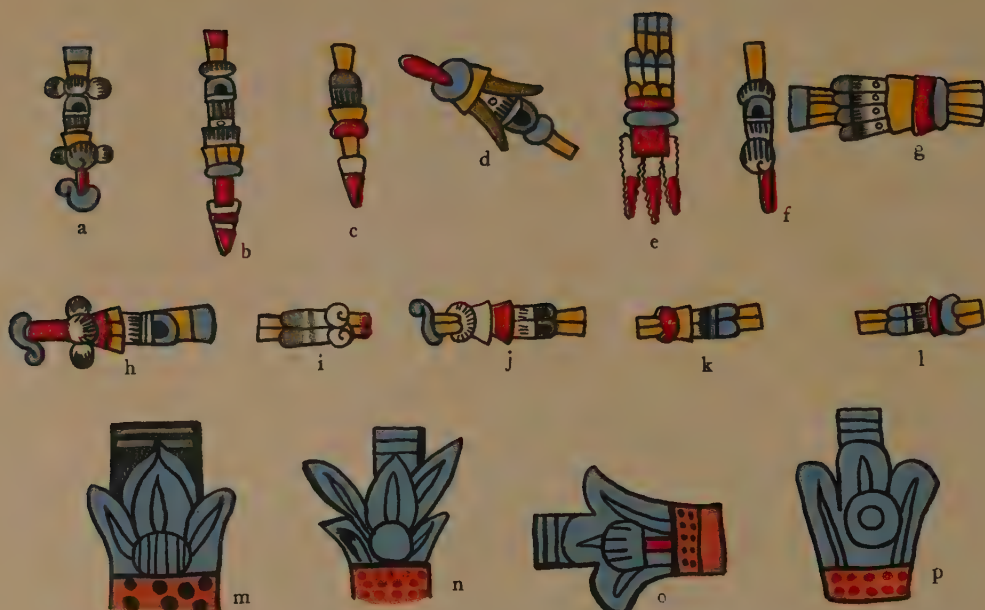
b

39

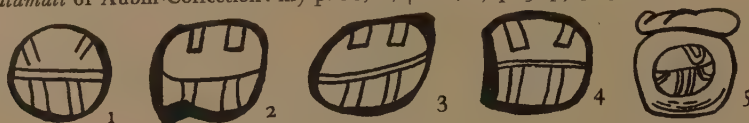
39. Descent of snake into bowl, *ibid.*: a) p. 5, b) p. 6.



40. *Tlalok*, in the Aubin Collection, attached to Duran's *Historia de las Indias de Nueva España*, p. 15.



41. *Akatl*, "bundle of arrows," in Codex Nuttall: a) p. 38, b) p. 34, c) p. 9, d) p. 53, e) p. 69, f) p. 46, g) p. 56, h) p. 41; in Codex Fejérváry-Mayer: i) p. 40, j) p. 29, k) p. 24, l) p. 12; in *Tonalamatl* of Aubin. Collection: m) p. 20, n) p. 12, o) p. 5, p) p. 3.



42. *Been*, "bundle of arrows," in Maya, from Bowditch, *Numeration . . . of the Mayas*.



43. *Tlalok* on the crocodile, in Codex Fejérváry-Mayer, p. 4.

44. *Tlalok* as a blue god, *ibid.*, p. 26.



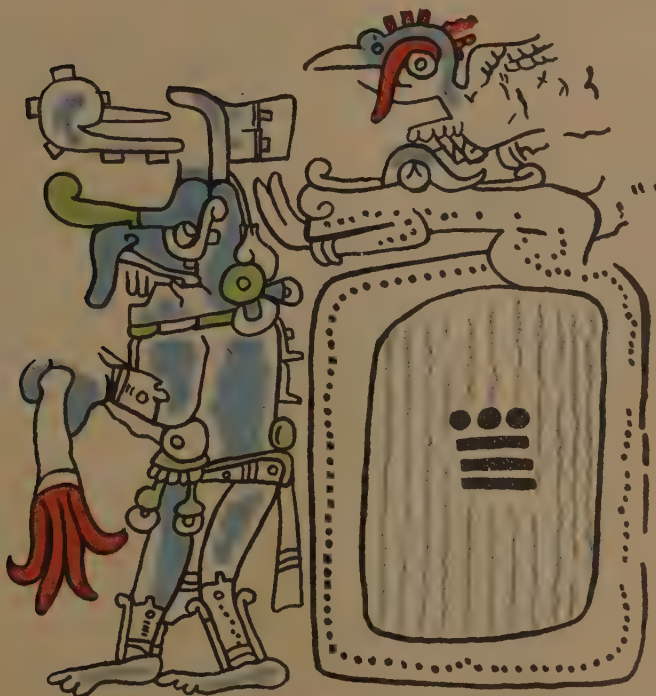
45



46

45. *Tlalok* and the maize plant, in Codex Fejérváry-Mayer, p. 34.

46. *Tlalok* with striped garment, *ibid.*, p. 36.



47. Mayan *Čak* corresponding to *Tlalok*, in Codex Tro-Cortesianus, p. 73.



48. The glyph *kiawitl*, in Codex Fejérváry-Mayer: a) p. 41, b) p. 34, c) p. 20, d) p. 7.



49



50

49. Full-faced *Tlalok*, in Codex Nuttall, p. 72.

50. Full-faced *Tlalok* with fangs, *ibid.*, p. 62.



51. The glyph *kiawitl*, in Codex Nuttall: a) p. 20, b) p. 8, c) p. 7, d) p. 37, e) p. 35, f) p. 33.



52a

52a). *Tlalok*, in Codex Telleriano-Remensis, p. 4r.



52b). *Tlalok*, in *Codex Telleriano-Remensis*, p. 5v.; c) in *Tonalamatl* of Aubin Collection, p. 7.

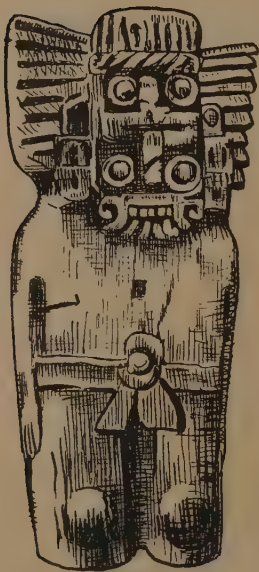
53. Glyph *kiawitl*, in *Codex Telleriano-Remensis*: a) p. 24r, b) p. 23v.; in *Tonalamatl* of Aubin Collection: c) p. 3, d) p. 3.



54



55a



55b



55c



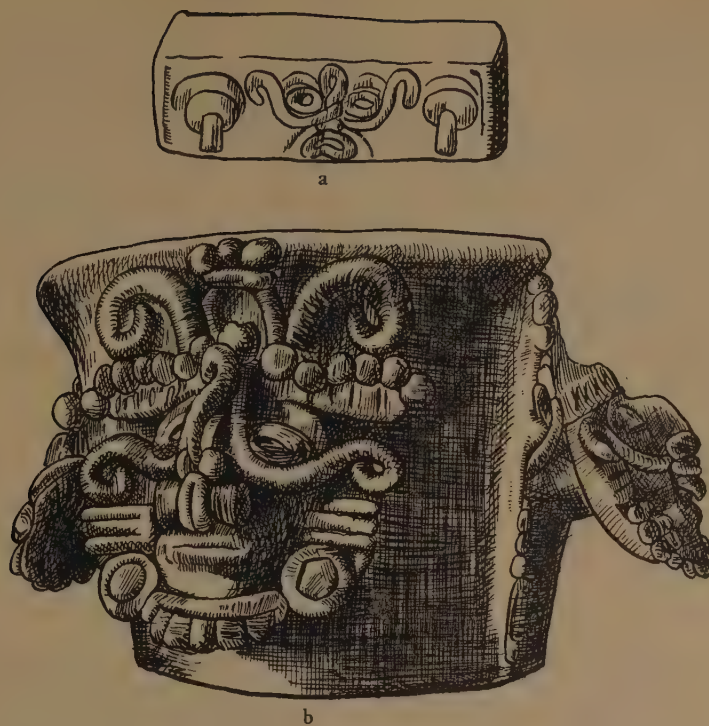
55d



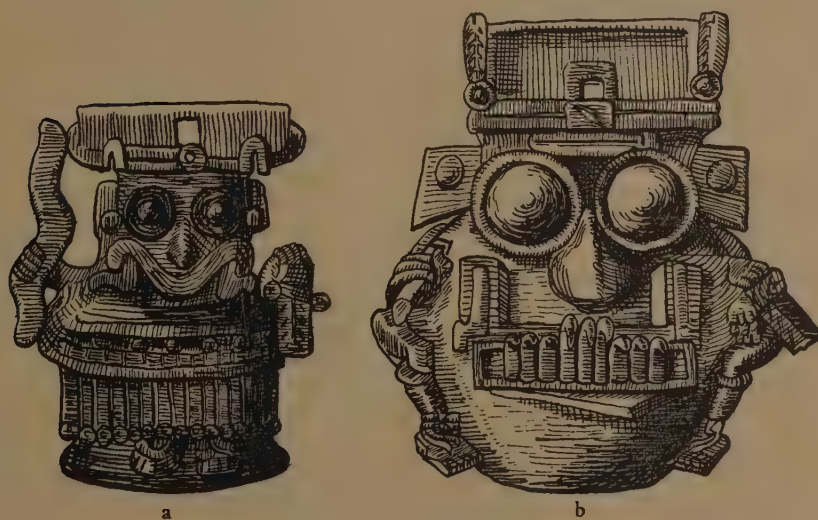
55e

54. *Tlalok* on pottery, at Castillo de Teayo, from Seler, *Abhandlungen*, vol. III, p. 435.

55. The same: a-c), *ibid.*, vol. II, p. 433, d, e), *ibid.*, p. 434.



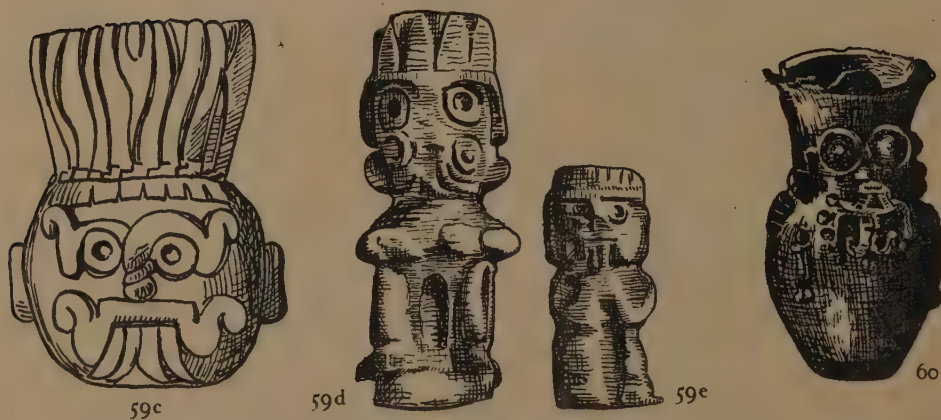
56. *Tlalok* on pottery, at Quen Santo, from Seler, *Abhandlungen*, vol. II: a) p. 254.
b) p. 256.



57. The same, at Tlaxcala, *ibid.*, p. 394.



58. Tlalok on pottery, from the Royal Museum of Ethnology at Berlin, from Seler, *Abhandlungen*, vol. II, p. 314.



59. The same: a, b) from the Museum at Vienna, *ibid.*, p. 110; c) from the Calle de las Escarillas, *ibid.*, p. 855; d, e) from the Royal Museum at Berlin, from Seler, *Codex Borgia*, vol. I, p. 109.

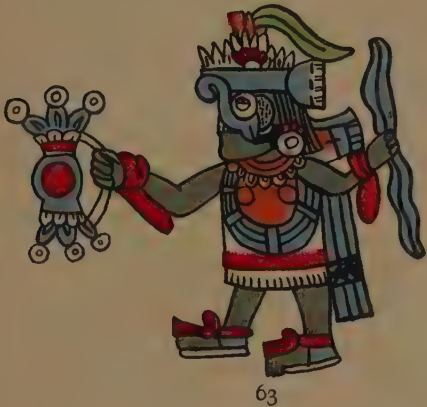
60. The same from Gamio, *La poblacion del valle de Teotihuacan*, vol. I, p. 278.



61



62



63



n



o



p



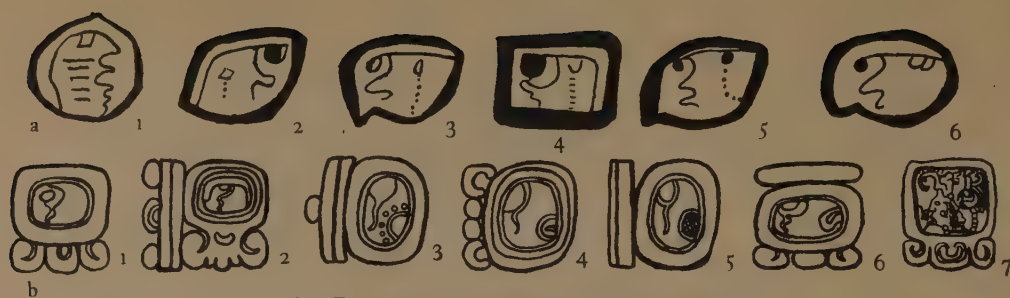
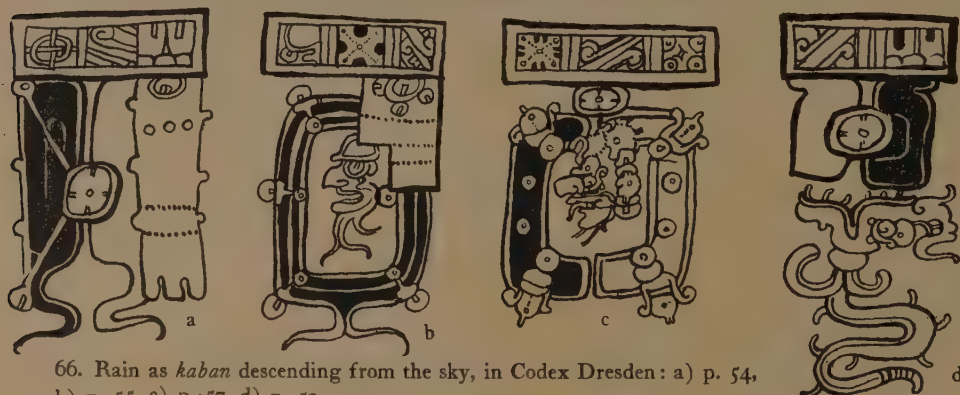
q

61. Aquarius pouring water from pitchers, from Budge, *The Gods of the Egyptians*. vol. II, p. 315.

62. *Tlalok* pouring water from a jar, in Codex Nuttall, p. 5.

63. *Tlalok* and the *olin* jar, in Codex Magliabecchiano, p. 89.

64. The glyph *olin*, in Codex Nuttall: a) p. 20, b) p. 16, c) p. 4, d) p. 4, e) p. 54, f) p. 51, g) p. 30, h) p. 22, i) p. 4, j) p. 80; in *Tonalamatl* of Aubin Collection: k) p. 8, l) p. 6, m) p. 5; in Codex Borgia: n) p. 21, o) p. 67, p) p. 21, q) p. 14.

65. The Mayan glyph *kaban*, from Bowditch.66. Rain as *kaban* descending from the sky, in Codex Dresden: a) p. 54, b) p. 55, c) p. 57, d) p. 52.67. *Ketsalkowatl* with the long nose, from *Anales del Museo Nacional de Mexico*, segunda epoca, vol. I, pl. 12.



68. *Ketsalkowatl* with the *oselokopilli*, in Codex Magliabecchiano, p. 61.



69. *Ketsalkowatl* with moon and star device, in Codex Magliabecchiano, p. 62.



70



71

70. *Ketsalkowatl* as the chastising god, in Codex Fejérváry-Mayer, p. 24.

71. *Ketsalkowatl* as *Yakatekutli*, *ibid.*, p. 36.



72



73

72. *Ketsalkowatl* with large shell, in Codex Vaticanus No. 3773, p. 21.

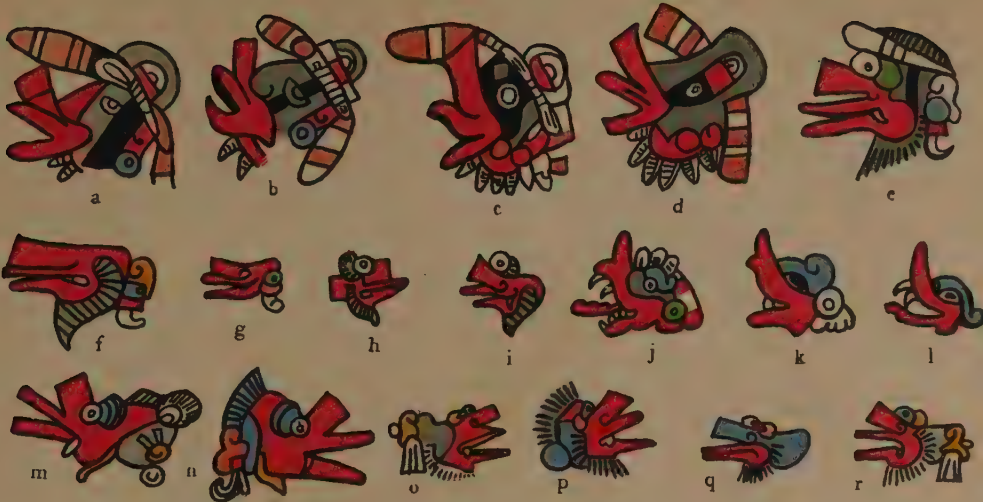
73. The same, *ibid.*, p. 39.



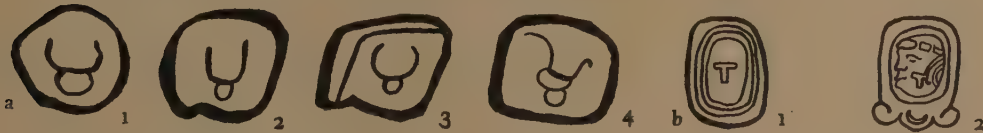
74. The same, with five-cornered shell, *ibid.*, p. 62.



75. *Ketsalkowatl* with bishop's staff, in Sahagun's MS., from Peñafiel, *Monumentos del arte mexicano antiguo*, p. 90.



76. The glyph *chekatl*, in *Tonalamatl* of Aubin Collection: a) p. 11, b) p. 10, c) p. 7, d) p. 4; in *Codex Nuttall*: e) p. 52, f) p. 28, g) p. 18, h) p. 18, i) p. 18; in *Codex Borbonicus*: j) p. 5, k) p. 10, l) p. 11; in *Codex Borgia*: m) p. 3, n) p. 68; in *Codex Fejérváry-Mayer*: o) p. 43, p) p. 38, q) p. 9, r) p. 7.



77. The Mayan glyph *iq*, from Bowditch: a) manuscript form, b) inscriptional form.



78. *Teksistekatl* with *teksistli* and *tekatl*, in *Codex Fejérváry-Mayer*, p. 24.

79. The same, in *Codex Telleriano-Remensis*, p. 13r.



80. *Istla Kolinhi* chastising the adulterers, in Codex Telleriano-Remensis, p. 16v and 17r.



81. *Ixtla Koliuhki* chastising the adulterers, in Codex Borbonicus, p. 12.



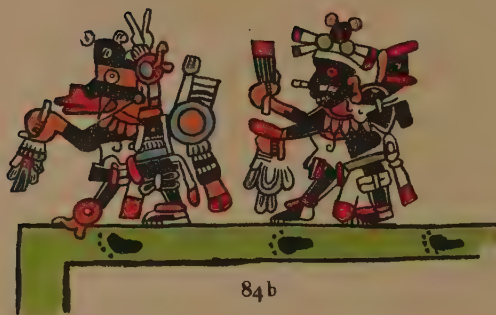
82. *Itstla Koliuhki* chastising the adulterers, in *Tonalamatl* of Aubin Collection, p. 12.



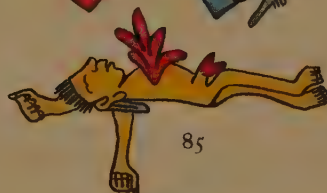
83. Stone god with five variously colored *Teshkatlipokas*, in Codex Borgia, p. 32.



84a



84b



85



86



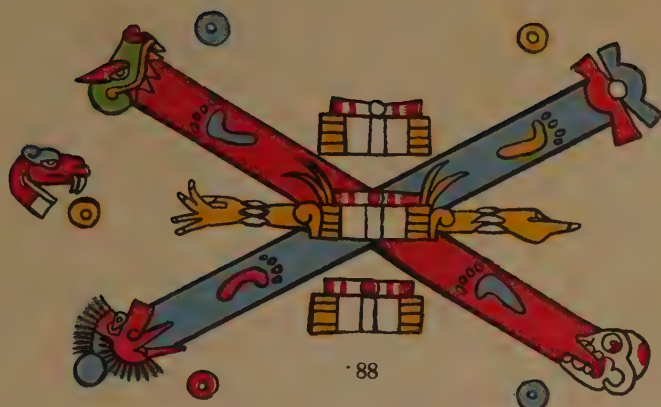
87

84a). *Ketsalkowats* in *Teshkatlipoka* make-up; b) *Teshkatlipoka* in *Ketsalkowatl* make-up, in Codex Borgia, p. 39.

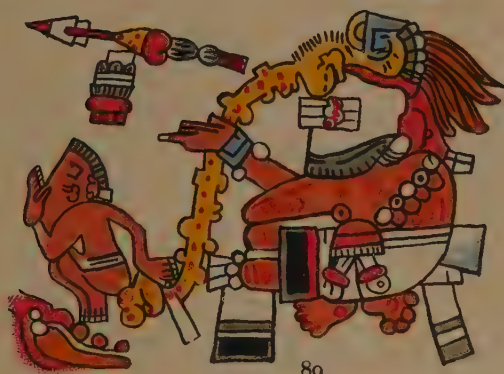
85. *Itzli* or *Teshkatlipoka* with cross-road and transgressor, in Codex Fejérváry-Mayer, p. 2.

86. The same, in Codex Vaticanus No. 3773, p. 19.

87. The same, in Codex Borgia, p. 14.



88



89



90

88. Cross-road with directions, in Codex Fejérváry-Mayer, p. 13.

89. *Teskatlipoka* with eyes tied, in Codex Vaticanus No. 3773, p. 31.

90. The same, with transgressor's entrails, *ibid.*, p. 39.



91. *Tescatlipoca* with hatchet on a throne, in Codex Borgia, p. 12.



92



93

92. The same, with obsidian knife in the dark, *ibid.*, p. 15.

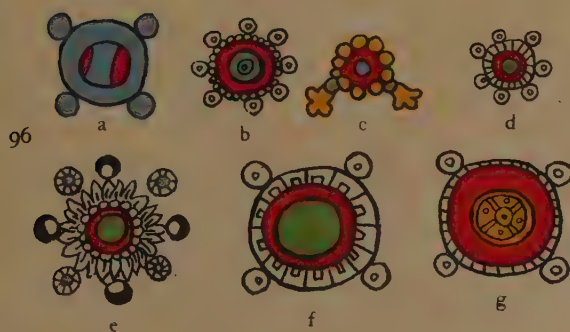
93. *Witsilopoçtli* and *Tescatlipoca* in the south and north, in Codex Fejérváry-Mayer, p. 25.



94



95



96



97



98

94. The Wanderer of the North, in Codex Fejérváry-Mayer, p. 40.

95. The Wanderer of the South, *ibid.*, p. 39.

96. The glyph *šiwitl*: a) in Peñafiel, *Catalogo alfabetico*, p. 36; b-e) pp. 3, 6, 7, 54; f) in Peñafiel, p. 11; g) in Codex Vaticanus No. 3773, p. 10.

97. *Tonakatekutli* and *Tonakasiwatli*, in Codex Borgia, p. 60.

98. *Tonakatekutli* confused with *Sočipilli*, in Codex Vaticanus No. 3773, p. 87.



99



100



101



102



103

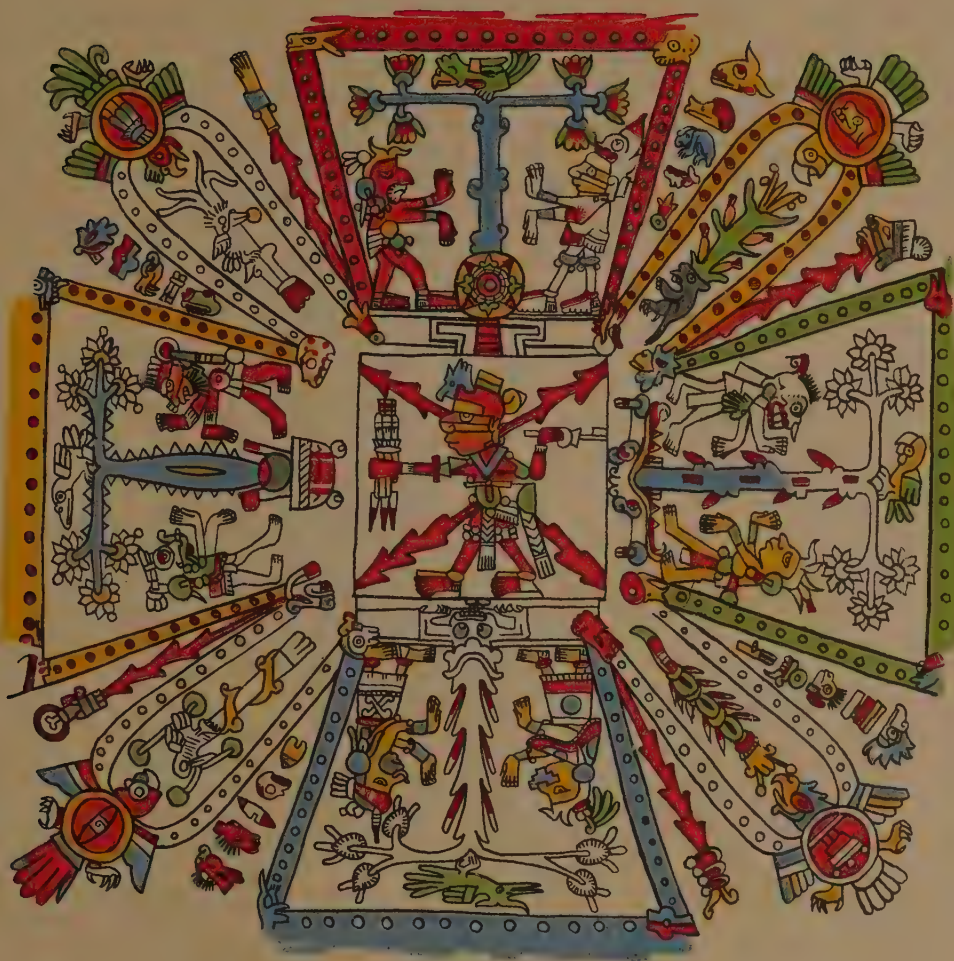
99. The old god *Istak Miškowatl*, in Codex Fejérváry-Mayer, p. 6.

100. The old god *Sipaktonal*, *ibid.*, p. 23.

101. The old goddess *Ilamatekutli*, *ibid.*, p. 7.

102. The old goddess *Tonakasiwatl*, *ibid.*, p. 24.

103. *Istak Miškowatl*, in Codex Borgia, p. 60.



104. Šiuhtekutli in the middle of the *tonalamatl*, in Codex Fejérváry-Mayer, p. 1.



105. Šuhtekutli, in Codex Borgia, p. 14.

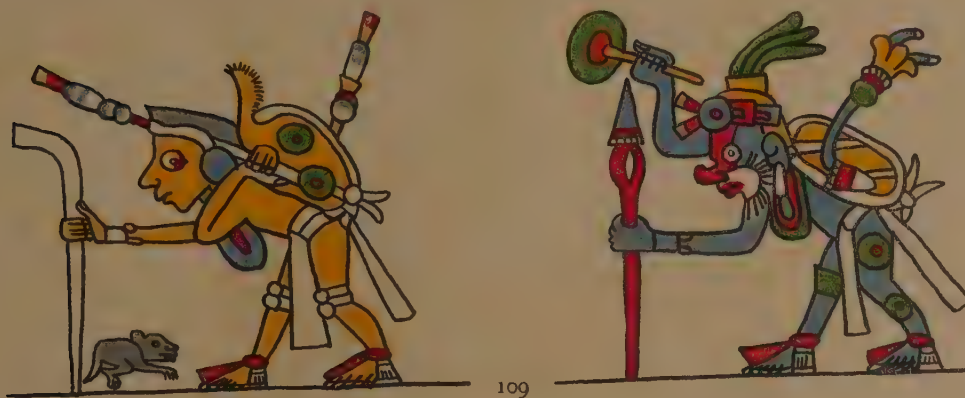


106. The same, with the scorpion, in Codex Vaticanus No. 3773, p. 57.



107. *Šiuhtekutli*, with *atl-tlačinolli*, in Codex Vaticanus No. 3773, p. 32.

108. The same, with a bundle of spears, *ibid.*, p. 19.



109



110

109, 110. *Yakatekutli* with traders, in Codex Fejérváry-Mayer, pp. 36, 37.



111. Water descending from sky, in Codex Dresden, p. 74.



112. Water descending from shells, in Codex Dresden: a) p. 34, b) p. 36; water in snake-like vessel: a) p. 33, b) p. 33, c) p. 34, d) p. 35.

113. Water in vessel, *ibid.*: a) p. 34, b) p. 38.

114. Čak crossing the ocean in a boat, *ibid.*: a) p. 65, b) p. 36, c) p. 40.

115a). Čak in curly water, *ibid.*, p. 63; b) digitate water, *ibid.*, p. 67.

116a). Curly water with fish and shells, *ibid.*, p. 67; b) child born of a conch, *ibid.*, p. 37.



117. Čak and attendant pouring water from pitchers, in Codex Tro-Cortesianus, p. 47.

118. Ketsalkowatl and the rain beasts, *ibid.*, p. 47.



119



120

119. Čak and the rain beasts, in Codex Tro-Cortesianus, p. 46.

120. Rain from kaban in the sky, *ibid.*, p. 44.



121. Rain from *kaban* in the sky, in Codex Tro-Cortesianus, p. 45.



122. Water from the conventionalized sky, *ibid.*, p. 62.



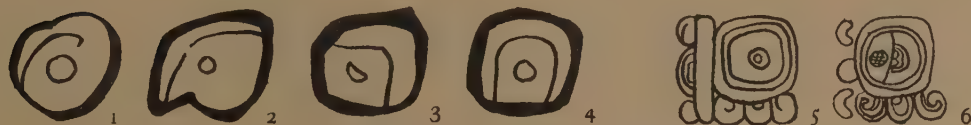
123. Water from the snake vessel, in Codex Tro-Cortesianus, p. 63;



124. Water from the snake vessel, in Codex Tro-Cortesianus, p. 68.



125. Water with shells, in Codex Tro-Cortesianus: a) p. 66, b) p. 94; conventionalized water vessel, *ibid.*: c) p. 97, d) p. 98; "hieratic" form of glyph, *ibid.*: e) p. 91, f) p. 62, g) p. 98, h) p. 99, i) p. 101, j) p. 82.



126. The Mayan glyph *muluk*, from Bowditch.



127



128

127. *Ektuk* with water eye, in Codex Tro-Cortesianus, p. 26.

128. The same, *ibid.*, p. 27.



129. Hare in the mouth of a snake, in Codex Vaticanus No. 3773, p. 27.



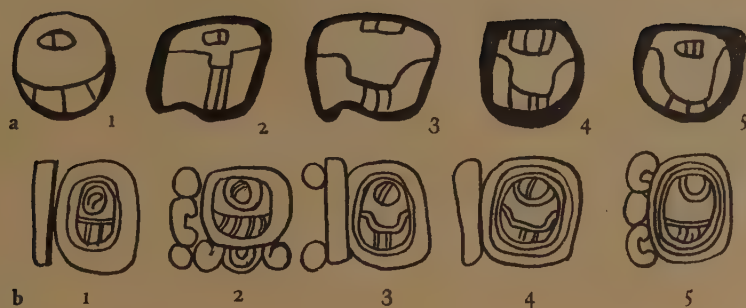
130



131

130. The same, in Codex Borgia, p. 52.

131. Iguana in the mouth of a snake, in Codex Fejérváry-Mayer, p. 42.



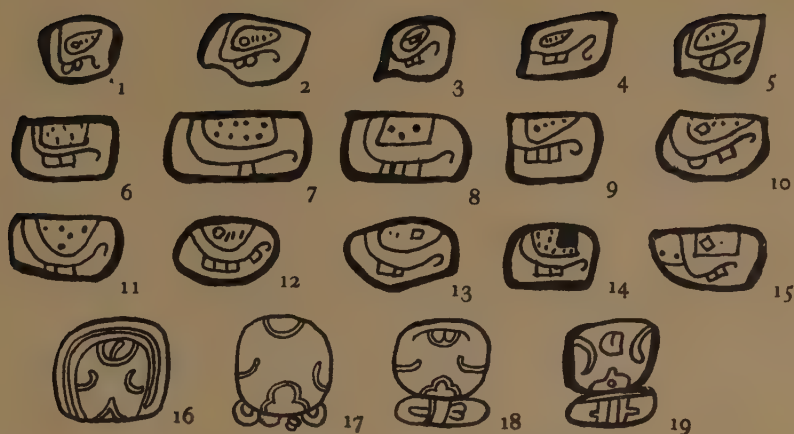
132. The Mayan glyph *gan*, from Bowditch: a) in manuscripts, b) in inscriptions.



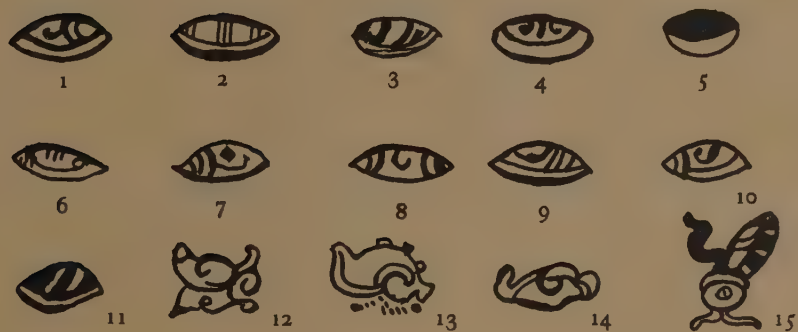
133. The deer representing lust, in Codex Borgia, p. 53.



134. The Mayan glyph *winal*, as a face sign, in inscriptions, from Bowditch.



135. The Mayan glyph *winal*, from Bowditch.



136. The Mayan "zero" glyph, in the codices, *ibid.*



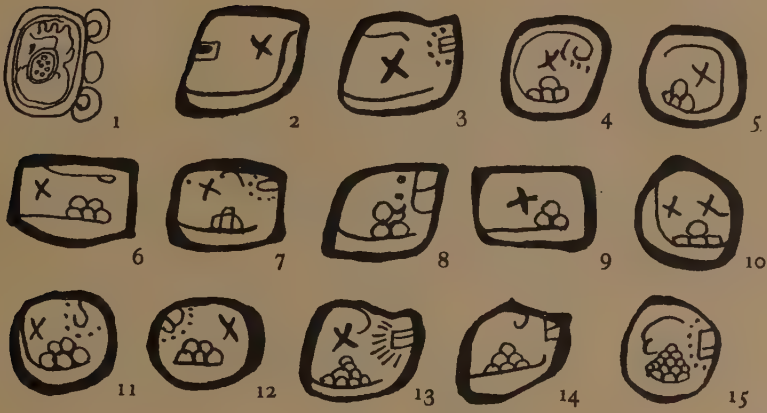
137. The same, in the inscriptions, *ibid.*



138a). The Mayan Tableau of the Bacabs, in *Codex Tro-Cortesiano*, pp. 1 and 2.



138b). Tableau sign of "zero," from Bowditch.



139. The Mayan glyph *kawak*, in the codices and inscriptions, *ibid.*



140. The glyph *keh*, *ibid.*



141. The deer fruit, in Hernandez, *Nova plantarum, animalium et mineralium mexicanorum historia*, p. 384.



142. The crocodile beast, in Codex Dresden, pp. 4 and 5.



143. The deer as the plum beast, in *Codex Borbonicus*, p. 6.



144. The deer as the plum beast, in the *Tonalamatl* of Aubin Collection, p. 6.



145a). The Mayan glyph *cen*, from Bowditch; b) the Mayan glyph *maniq*, *ibid*.



146. The conventionalized deer, in Codex Vaticanus No. 3773, p. 96.



147. Fire beast descending from the sky, in Codex Dresden, p. 1.

148. The glyph *ilwikatl*: a) in Codex Magliabecchiano, p. 5v.; b) in Codice Mariano Jimenez, p. 1; c) from Seler, *Abhandlungen*, vol. I, p. 267.

149. Fire beasts descending from the sky, in Codex Dresden, p. 2.

150. The god on the deer, *ibid.*

151. "Descents," *ibid.*: a) p. 40, b) p. 39, c) p. 38, d) p. 66, e) p. 68.



152. Wine jar with hare, in Codex Borgia, p. 23.
 153. Wine jar, hare, and *Mayavel*, *ibid.*, p. 12.



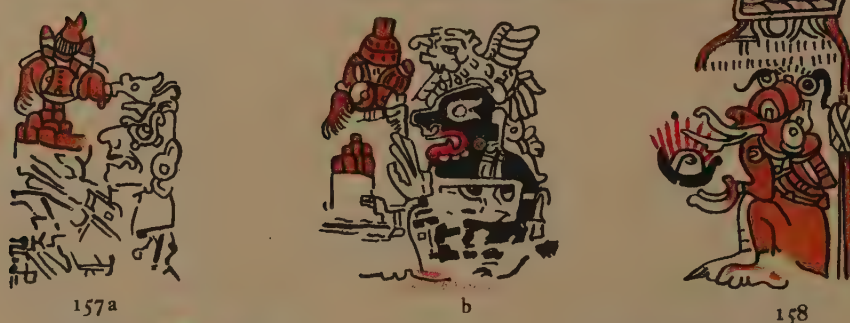
154. The "moon vessel" on a wine jar, in Codex Magliabecchiano, p. 85.



155a). Bee god over fire, in Codex Dresden, p. 80; b) old god with vulture and turkey, *ibid.*



156. Vulture-Negro, *ibid.*, p. 79.



157a

b

158



159a



157. Negro with *kib* sign and vulture, *ibid.*, p. 80.

158. Bee god as *Ketsalkowatl*, *ibid.*, p. 81.

159. Bee god: a) over "plenty," *ibid.*, p. 84; b) over "death" and "fire," *ibid.*



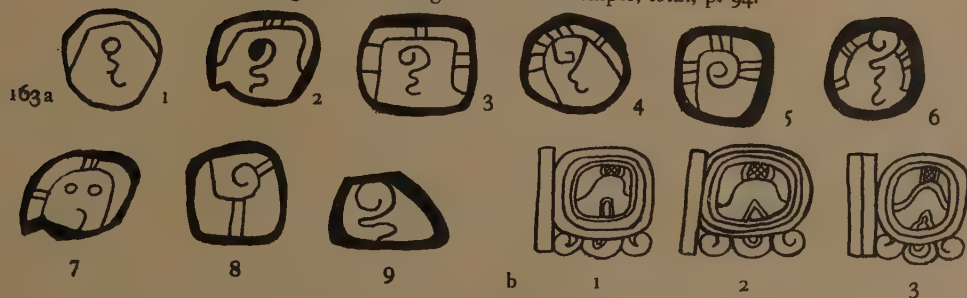
160. Bee god, in Codex Dresden. p. 85.



161. Negro sacrificing to Vulture-Negro, *ibid.*, p. 93.



162. Negro as traveling merchant worshiper, *ibid.*, p. 94.



163. The Mayan glyph *kib*, from Bowditch: a) in codices, b) in inscriptions.



164. Priest as Čak in epagomenal days,
in Codex Dresden, p. 25.



165. Čak and jar with kib glyph, *ibid.*, p. 29.



166. Negro and wine-making, *ibid.*, p. 34.



167. The same, *ibid.*, p. 35.



168

168. Čak paddling across the ocean, *ibid.*, p. 43.



169

169. Čak and turkey interchanged, in Codex Peresianus.



170. Crocodile with lower jaw, in Codex Vaticanus No. 3773, p. 48.



171. Crocodile without lower jaw, in Codex Borgia: a) p. 51, b) p. 21, c) p. 51.



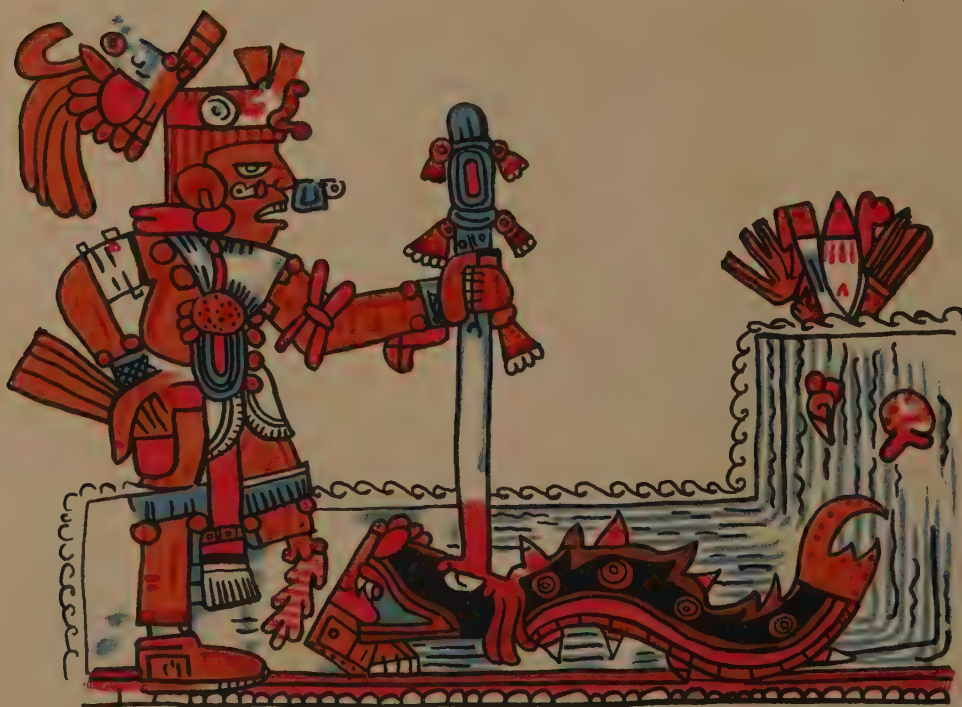
172



173

172. *Sipatli* as shark and *Sočipilli*, in Codex Fejérváry-Mayer, p. 42.

173. *Sipatli* as shark and *Tlalok*, in Codex Vaticanus No. 3773, p. 69.



174. Shark and *Sočipilli* in Codex Vaticanus No. 3773, p. 291.



175a



b



176 a



b



c



d



e



f



g



h



i



j



k



l



177a



b

175. Trees growing through *sipatli*, in Codex Nuttall: a) p. 51, b) p. 44.

176. The glyph *sipatli*, in Codex Nuttall: a) p. 13, b) p. 9, c) p. 4, d) p. 1, e) p. 40, f) p. 35, g) p. 19, h) p. 16, i) p. 25, j) p. 70, k) p. 47, l) p. 42.

177. Plant growing from *sipatli*: a) in Codex Fejérváry-Mayer, p. 28; b) in Codex Vaticanus No. 3773, p. 17.



.178. The glyph *sipatli*, in Codex Fejérváry-Mayer: a) p. 21, b) p. 20, c) p. 7, d) p. 8, e) p. 31, f) p. 28.



179a



b



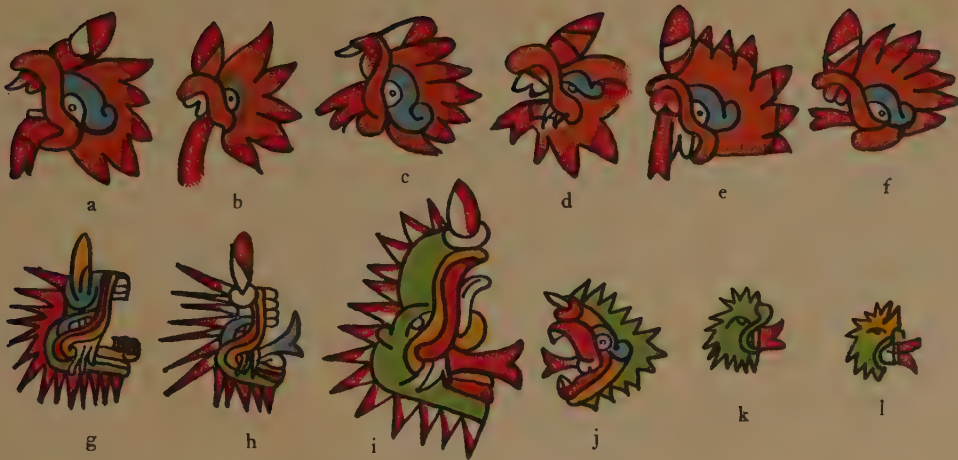
179c



180

179. Plant rising from double *sipatli*, *ibid.*: a) p. 1, b) p. 29; c) "death" rising from double *sipatli*, *ibid.*, p. 17.

180. Warrior on double *sipatli*, in Codex Nuttall, p. 12.



181. The glyph *sipatli*, in *Tonalamatl* of Aubin Collection: a) p. 7, b) p. 11, c) p. 5, d) p. 4, e) p. 10, f) p. 8; in Codex Telleriano-Remensis: g) p. 16r., h) p. 23r.; in Codex Borgia: i) p. 18, j) p. 4; in Sahagun's MS.: k, l) p. 35.



182. Double *sipatli* and "death," in Codex Vaticanus No. 3773: a) p. 12, b) p. 3.



a



b

183. Double *sipatli* with bars and circles, in Codex Vaticanus No. 3773: a) p. 42a.
b) p. 90.



184



185

184. Double *sipatli* with conventionalized bars and circles, *ibid.*, p. 71.
185. Double *sipatli* like caterpillar, *ibid.*, p. 69.



a



b

186. *Sipatli* as step-like descent, *ibid.*: a) p. 23, b) p. 63.



a



b

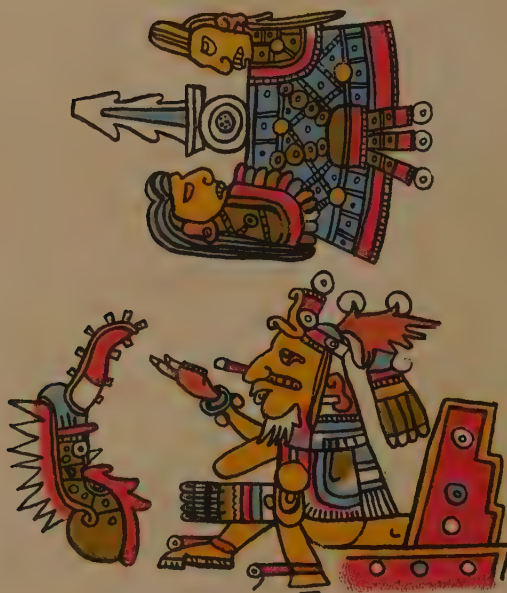
187. *Sipatli*, in Codex Borgia: a) p. 8, b) p. 53.



188. Reticulated double *sipatli*, *ibid.*, p. 71.



189. *Sipatli*, with Morning Star, in Codex Borgia, p. 19.



190. *Sipatli* and *Tonakatekutli*, *ibid.*, p. 9.



192a



191



192b



193

191. *Sipatli* as earth from which corn grows, in Codex Borgia, p. 27.

192. *Sipatli* as earth, *ibid.*: a) p. 33, b) p. 39.

193. *Sipatli* as cave, *ibid.*, p. 22.



194



195



196



197

194. *Sipatli* and House of Descent, *ibid.*, p. 24.
 195. *Sipatli*, bars and circles, on *Sočikwetsal*, Codex Vaticanus No. 3773, p. 42.
 196. The same, on *Sinteotl*, *ibid.*, p. 22.
 197. The same, on *Mayavel*, *ibid.*, p. 89.



198



199



200

198. *Sipatli*, on *Tlasolteotl*, in Codex Vaticanus No. 3773, p. 41.

199. The same, on *Tonakatekutli*, *ibid.*, p. 79.

200. The same, on first human pair, *ibid.*, p. 28.



201



202 a



b



c



d



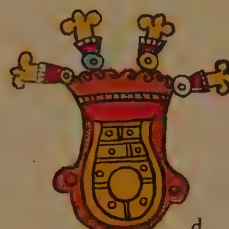
203 a



b



c



d

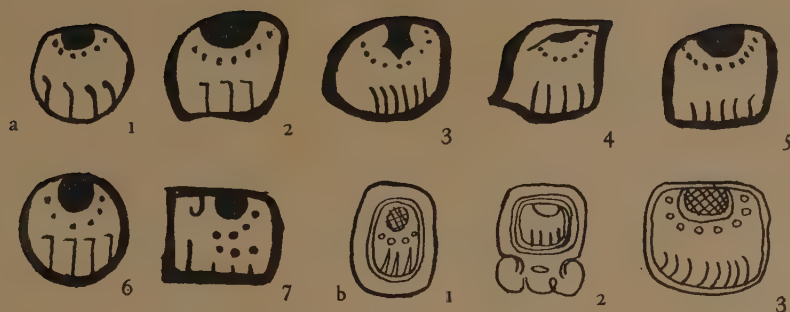


204 a



b

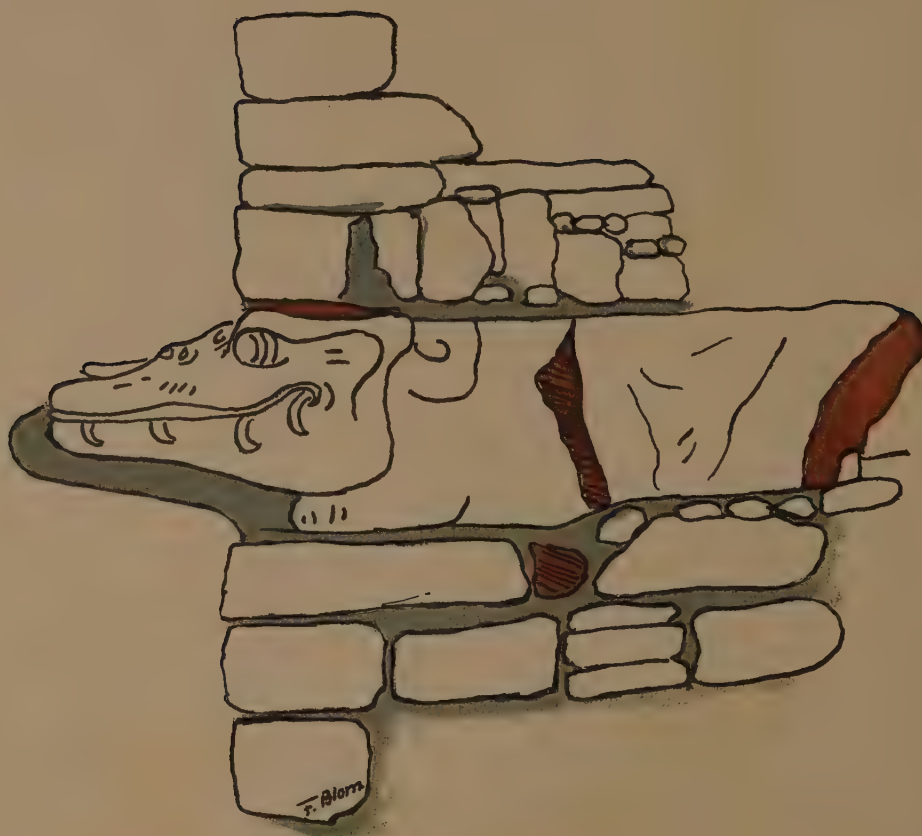
201. *Sipatli*, bars and circles, on officiating priest, in Codex Vaticanus No. 3773, p. 37.
 202. The same, on vases, *ibid.*: a) p. 6, b) p. 8, c) p. 7, d) p. 35.
 203. The same, on vases, in Codex Borgia: a) p. 2, b) p. 3, c) p. 67, d) p. 53.
 204. The same, on vases, in Codex Fejérváry-Mayer: a, b) p. 29.



205. The Mayan glyph *imiſ*, from Bowditch: a) in codices, b) in inscriptions.



206. *Sipatli* on Copan altar, from Maudsley.



207. Crocodile in the wall of Palenque ruins, by courtesy of Direccion de Antropologia, Mexico, and Professor F. Blom.



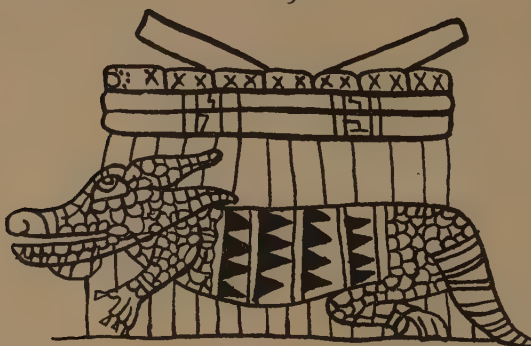
208. Deer with Negro face within its jaws, in Codex Tro-Cortesianus, p. 38.



209a). Deer as plum beast, *ibid.*, p. 28; b) in transitional shape, *ibid.*



209c



210a

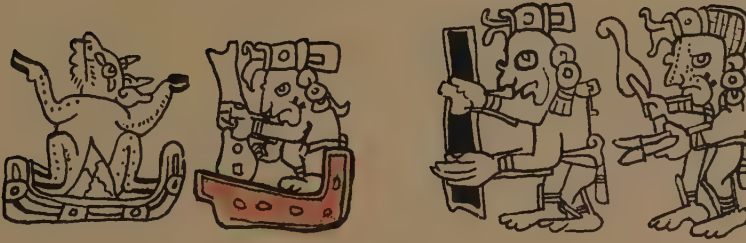


210b

209c). Deer changed into peccary, in Codex Tro-Cortesianus, p. 28.
 210a). Deer, and armadillo, *ibid.*, p. 29; b) in transitional shape.



211



212



213



214

211-218. Progressive story of the deer, in Codex Tro-Cortesianus, pp. 96-103.



215



216



217



218

211-218. Progressive story of the deer, in Codex Tro-Cortesianus, pp. 96-103.



219



220

219. *Sipatli* descent, in Codex Dresden, p. 8.

220. *Sipatli* earth, *ibid.*, p. 20.



221



221. *Sipatli* bars and reticulation, *ibid.*, p. 27.



222



223



224

222. *Sipatli* in bottle-shaped formation, *ibid.*, p. 33.

223. *Čak* in boat on conventionalized *sipatli*, *ibid.*, p. 40.

224. Old god situated on *sipatli*, *ibid.*, p. 68.



225a



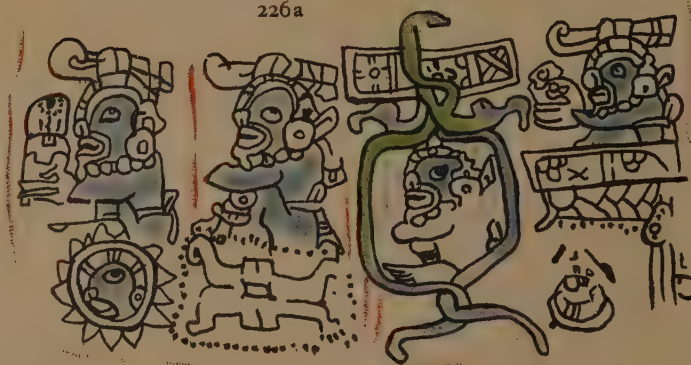
225b



225c



226a



226b

225a, b, c). Old god situated on *sipatli*, in Codex Tro-Cortesianus, p. 64.
 226. Story of Vulture-Negro, *ibid.*: a) p. 66, b) p. 67.



227



228



229



230



231



227. "Death" and conventionalized *sipatli*, in Codex Tro-Cortesianus, p. 103.
 228. The same, and beehive, *ibid.*, p. 105.
 229. Negro worshiper before the fire, *ibid.*, p. 26.
 230. Negro drilling fire, and *sipatli* sparks, *ibid.*, p. 26.
 231. Bottle-shaped *sipatli* and bee god, *ibid.*, p. 86.



a



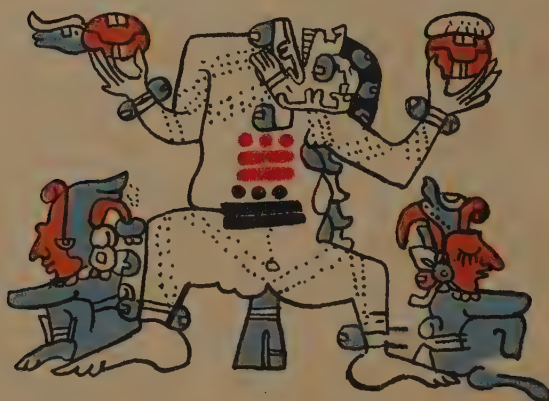
b



c



d



e

232. *Sipatli* marks, in Codex Tro-Cortesianus: a) on old god, p. 83; on *Kimi*: b) : p. 54, c) p. 48, d) p. 84, e) p. 18.



232 f



g



233 a



b



c



d



e



234 a

1



2



3



4



5



6



7



8



9



10



11



12



13



14



15



16



17



18



19



20



21



22



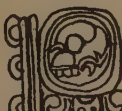
23



b



1



2

232f). *Sipatli* marks, in Codex Tro-Cortesianus, on *Kimi*, p. 87; on old goddess, p. 87.

233. *Sipatli* marks, in Codex Dresden, on *Čak:*^a a) p. 35, b) p. 34; on *Kimi*: c) p. 53, d) p. 12, e) p. 45.

234. The Mayan glyph *kimi*, from Bowditch: a) in codices, b) in inscriptions.



235. The Nine Attendants of the Gods, in Pyramid texts, from Budge, *op. cit.*, vol. I, p. 85.



236. Qatun wheel, in Cogolludo, *Historia de Yucathan*.



237. The Ninth Lord of the day: a) in *Codex Borbonicus*, b) in *Tonalamatl* of Aubin Collection.



238. The same, in Mayan inscriptions, from Bowditch.



239. *Ketsalkowatl's* hat, in *Codex Vaticanus* No. 3738, fol. 7v.

240. *Ketsalkowatl* with jaguar skin hat, in *Codex Magliabecchiano*, p. 89.



241. *Ketsalkowatl* and *oselotl* in *Tonalamatl* of Aubin Collection, p. 3.



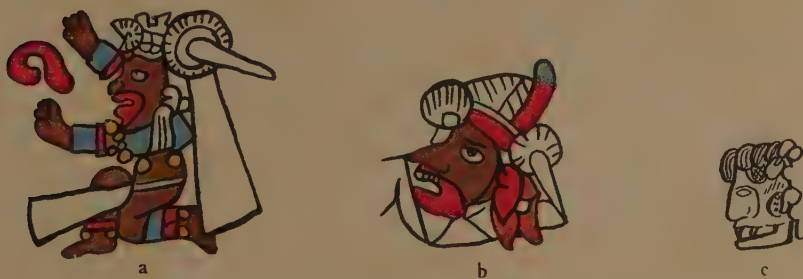
242. The same, in Codex Telleriano-Remensis, pp. 9v., 10r.



243. *Ketsalkowatl*, in Codex Borbonicus, p. 3.



244. The Sixth Lord of the Day: a) in Codex Borbonicus: b) in *Tonalamatl* of Aubin Collection, c) as face sign for "six," in Mayan inscriptions, from Bowditch, d) as face sign for "sixteen," *ibid.*

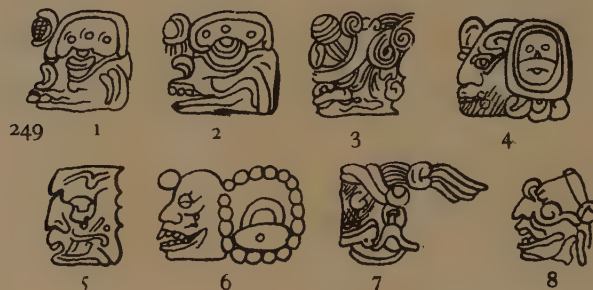


245. The Eleventh Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection, c) as face sign for "eleven," from Bowditch.



246. The Thirteenth Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.

247. Mayan face sign for "thirteen," from Bowditch.



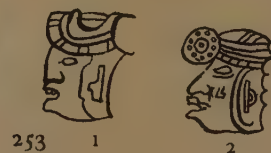
248. The Tenth Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.

249. Mayan face sign for "ten," from Bowditch.



250. The Second Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.

251. Mayan face sign for "two," from Bowditch.



252. The Third Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.

253. Mayan face sign for "three" from Bowditch.



254. Šiuhtekutli with tatoo stripe, in Codex Borgia, p. 13.



255. The First Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.

256. Mayan face sign for "one," from Bowditch.



257. The Seventh Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection, c) as Mayan face sign for "seven," from Bowditch.

258. Glyph of *Tonakatekutli*, in Codex Vaticanus No. 3738, fol. 12v.



259. The Eighth Lord of the Day: a) in Codex Borbonicus, b, c) in *Tonalamatl* of Aubin Collection.

260. Mayan face sign for "eight," from Bowditch.



261. The Fourth Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.

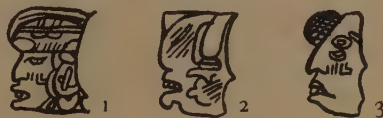
262. Mayan face sign for "four," from Bowditch.



263. The Twelfth Lord of the Day: a) in Codex Borbonicus, b) in *Tonalamatl* of Aubin Collection.



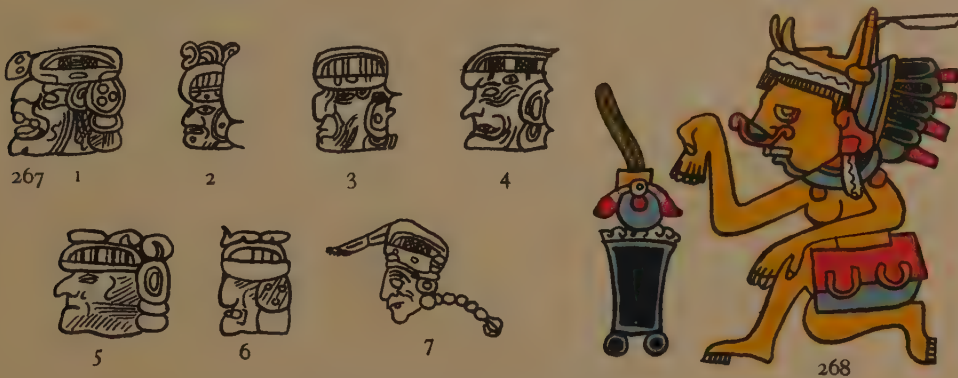
264. Mayan representation of Venus as quincunx, from Seler, *Codex Borgia*, vol. I.p. 254.



265. Mayan face sign for "twelve," from Bowditch.



266. The Fifth Lord of the Day: a) in *Codex Borbonicus*, b) in *Tonalamatl* of Aubin Collection.



267. Mayan face sign for "five," from Bowditch.

268. *Tlasolteotl* with moon device, in *Codex Borgia*, p. 23.



269. *Oselotl*, in Codex Nuttall: a) p. 24, b) p. 27, c) p. 29, d) p. 31.

270. *Oselotl* as phonetic value, *ibid.*, p. 46.

271. *Oselotl*, in Codex Fejérváry-Mayer: a) p. 26, b) p. 28, c) p. 41.



272. Wounded *oselotl*, in Codex Vaticanus No. 3773, p. 25.



273. *Miškowatl* spearing *oselotl*, in Codex Borgia, p. 50.



274. The same, in Codex Vaticanus No. 3773, p. 84.



275. Death god spearing *oselotl*, in Codex Bologna, p. 11.



276. *Oselotl* marking, in Codex Borgia: a) p. 24, b) p. 10.



277. *Oselotl* as part of mummy pack, in Aubin Collection, in Duran's *Historia de las Indias de Nueva España*, pl. 14a.



278. The same, in Codex Magliabecchiano, p. 68.



279. Battle array with *oselotl* general, in Codex Nuttall, p. 8.



280. *Oselotl* warrior, in Codex Nuttall, p. 43.



281. *Oselotl* and eagle, in *Tonalamatl* of Aubin Collection, p. 11.



282a



283

282. *Oselotl* and cave, in Codex Vaticanus No. 3773: a) p. 87, b) p. 51.

283. *Oselotl* as warrior, *ibid.*, p. 59.



282b



284

284. *Oselotl* as *Tepeyollotli*, *ibid.*, p. 63.



286a



285



286b

285. *Oselott* as warrior, in Codex Vaticanus No. 3773, p. 70.
 286. *Oselott* attire, in Codex Zapoteco: a) p. 3, b) 28.



a



b

287. *Oselotl* warrior, in Codex Zapoteco: part II: a) p. 25, b) p. 26.



288. *Oselotl*, in beginning of story, in Codex Nuttall, p. 82.



289. *Oselotl* warrior and captive, *ibid.*, p. 83.



290. Gladiatorial sacrifice, in Codex Nuttall, p. 83.



291. Mummy pack with sacrificed slave, in Codex Magliabecchiano, p. 66.



292. Gladiatorial sacrifice, in Duran, *op. cit.*, trat. 2, pl. 7a.

293. The same, in Aubin Collection, app. pl. 1a.



294. Gladiatorial sacrifice, in Codex Magliabecchiano, p. 30.



295a



b



c



d



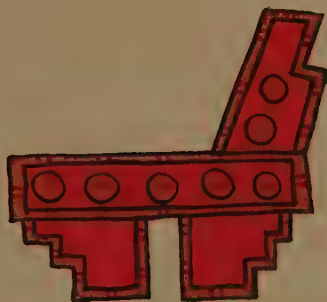
e



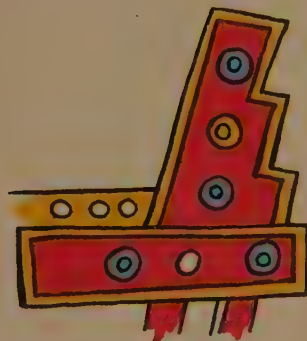
f



g



296a



b



297a



b



c



d



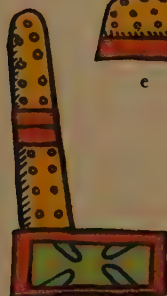
e



f



g



h



i



j

295. Jaguar-skin seats, in Codex Nuttall: a) p. 28, b) p. 28, c) p. 24, d) p. 6, e) p. 79, f) p. 29, g) p. 28.

296. Throne, with jaguar-skin cover: a) in Codex Vaticanus No. 3773, p. 64, b) in Codex Borgia, p. 12.

297. Jaguar-skin seats, in Codex Fejérváry-Mayer: a) p. 9, b) p. 8, c) p. 5, d) p. 29, e) p. 25, f) p. 23, g) p. 11, h) p. 36, i) p. 30, j) p. 39.



298. The glyph *oselotl*, in Codex Nuttall: a) p. 9, b) p. 54, c) p. 32; in Codex Bologna: d) p. 6, e) p. 2; in Codex Borbonicus: f) p. 5; in Sahagun's MS.: g) pl. 35.



299. Jaguar, in Codex Dresden, p. 8.

300. Jaguar, and dog-shaped god, *ibid.*, p. 26.



301. Jaguar, or dog, as fire animal, *ibid.*: a) p. 13, b) p. 40, c) p. 39.



304 a



302



305 a



306 a



303 a



305 b



306 b



303b

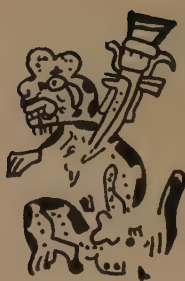


305 c



306 c

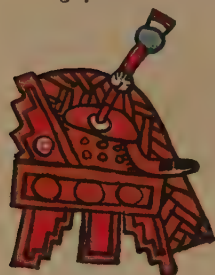
302. The story of *Tlawiskalpantekutli* and the *oselotl*, in Codex Dresden, p. 46.
 303a, b). The same, continued, *ibid.*, p. 47. 305a-c). The same, continued, *ibid.*, p. 49.
 304. The same, continued, *ibid.*, p. 48. 306a-c). The same, continued, *ibid.*, p. 50.



307



308



309



310

307. Wounded jaguar, in Codex Tro-Cortesianus, p. 36.

308. Jaguar priest, *ibid.*, p. 41.

309. Jaguar-skin seat pierced by an arrow, in Codex Vaticanus No. 3773, p. 83.

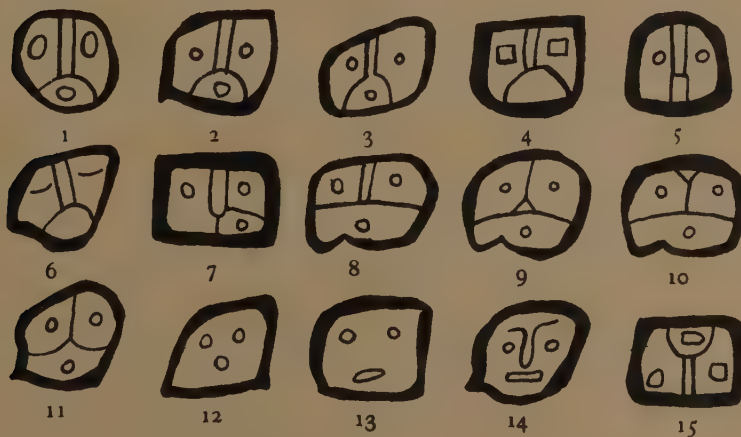
310. Sun seat pierced by an arrow, in Codex Bologna, p. 10.



311. The glyph *šocitl*, in Codex Nuttall: a) p. 4, b) p. 4, c) p. 2, d) p. 25, e) p. 15, f) p. 11, g) p. 5, h) p. 5, i) p. 25, j) p. 18, k) p. 17, l) p. 47, m) p. 46, n) p. 45, o) p. 44, p) p. 53, q) p. 52, r) p. 49, s) p. 47; in Codex Fejérváry-Mayer: t) p. 20, u) p. 16, v) p. 9, w) p. 17, x) p. 24, y) p. 37, z) p. 30.



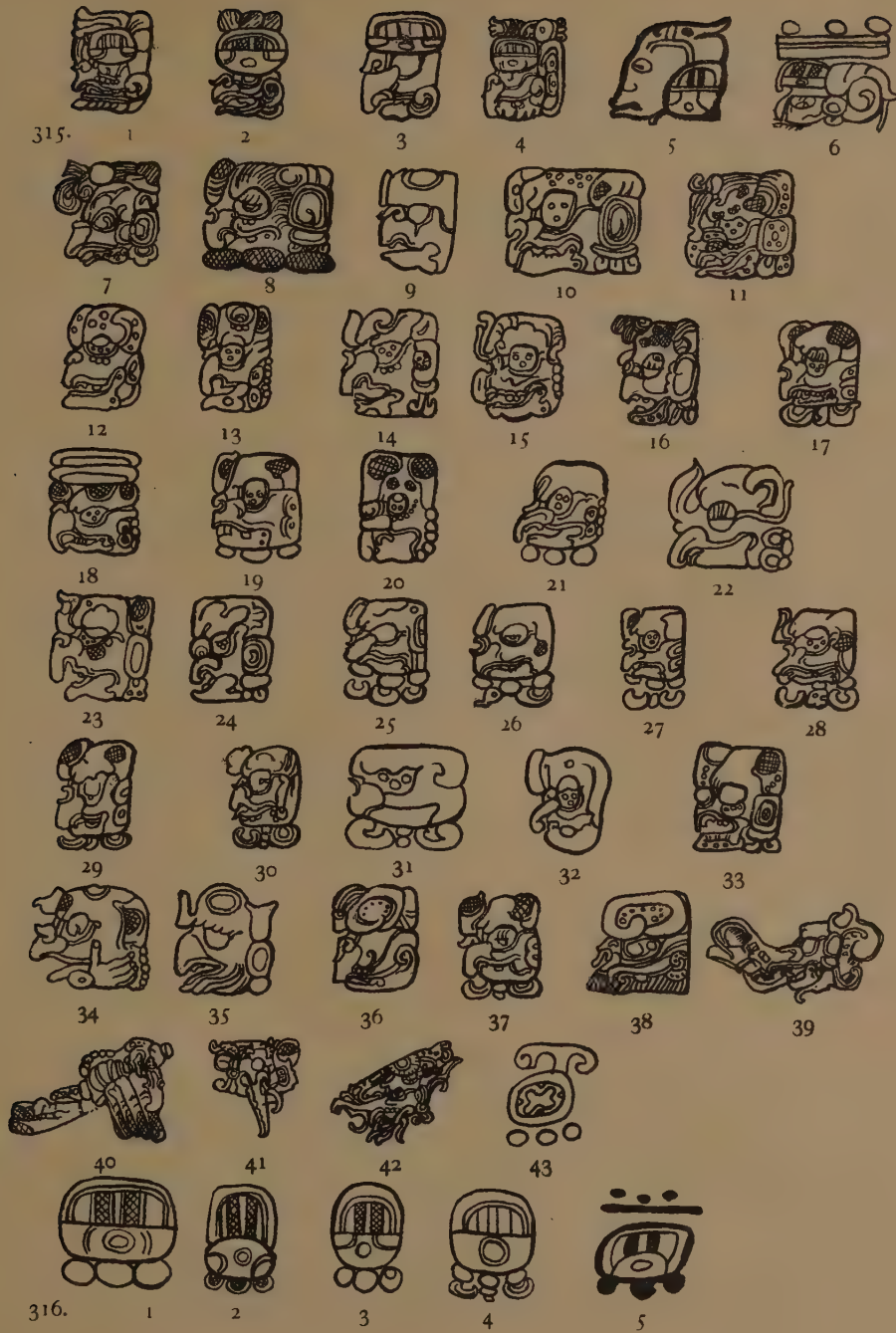
312. The same, in *Tonalamatl* of Aubin Collection: a) p. 17, b) p. 16, c) p. 10, d) p. 5, e) p. 19, f) p. 11, g) p. 8, h) p. 4; in Codex Bologna: i) p. 2, j) p. 5, k) p. 6; in Codex Borbonicus: l) p. 4; in Sahagun's MS.: m) pl. 35.



313. The Mayan glyph *ahau* in the codices, from Bowditch.

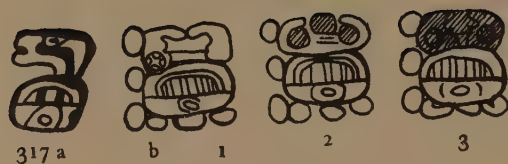


314. The Mayan glyph *ahau* in the inscriptions, from Bowditch.



315. The Mayan glyph *tun* as face sign, from Bowditch.

316. The same, as normal period, *ibid.*



319

320

317. The Mayan glyph *wayeb*, from Bowditch : a) in codices, b) in inscriptions.
 318. The glyph *nemontemi*, in Codex Telleriano-Remensis, p. 7r.
 319. *Miskowatl* with crooked stick in Codex Magliabecchiano, p. 42.
 320. The Mayan glyph S, in Codex Dresden, p. 68.



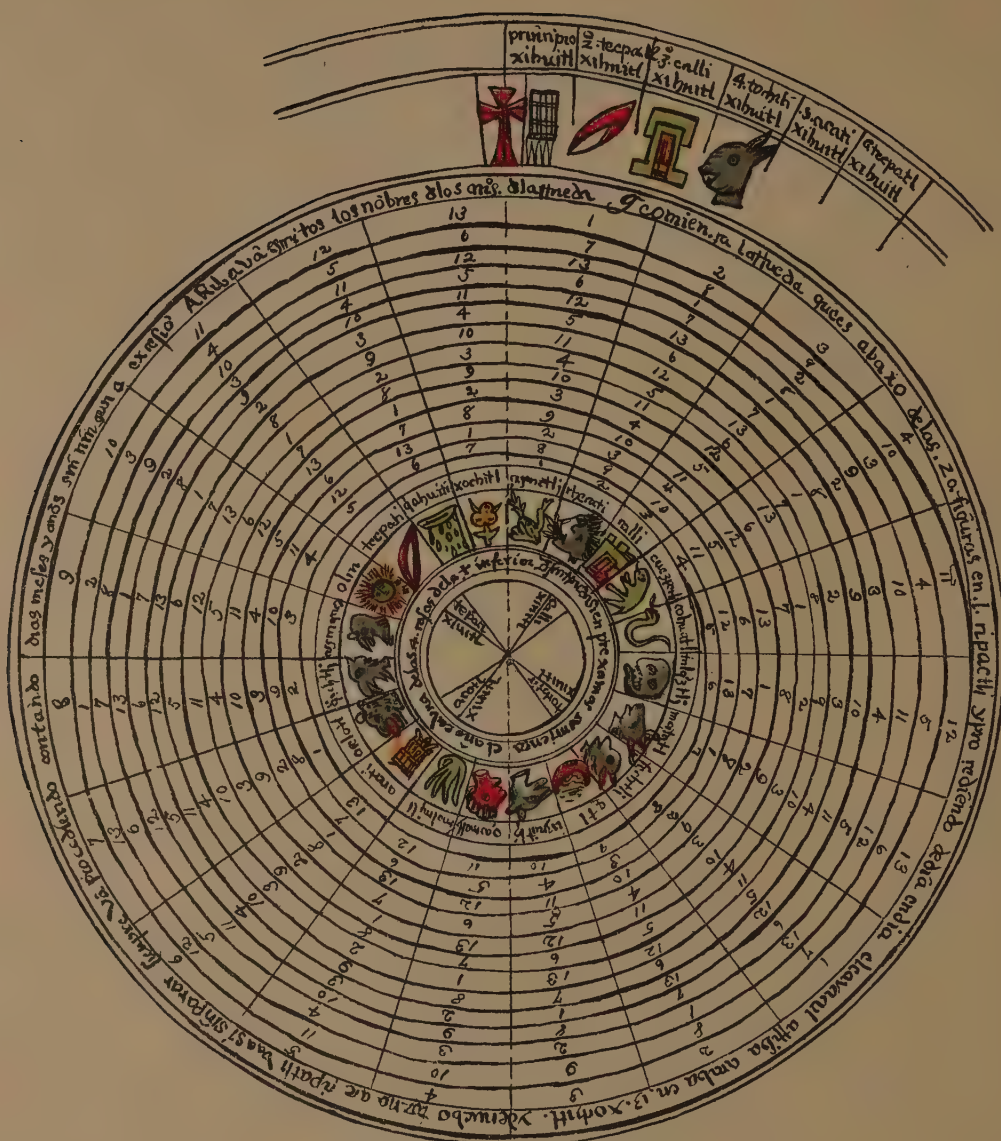
321. Stone circles in Gambia, from *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*, vol. LIII, p. 204.



322. The Mayan glyph *qatun*, from Bowditch: a) as face sign. b) as normal period.

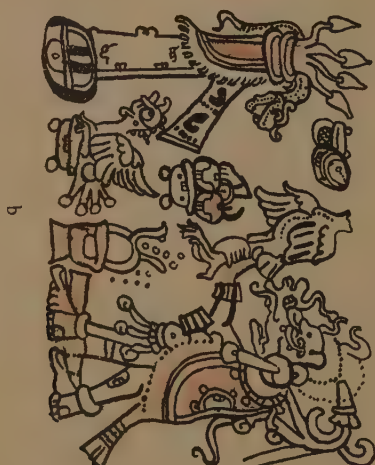
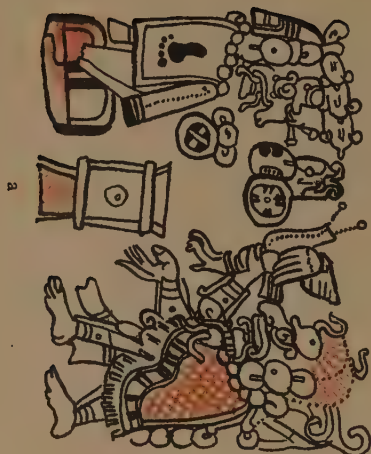


323. Calendar Wheel, in Duran, *op. cit.*, trat. 3, pl. 1.

324. Calendar Wheel, in Pimentel, *Memoriales de Fray Toribio de Motolinia*, Mexico 1903



325. Calendar Wheel, in Chilan Balam of Kawa.



326. The alternating priests, in *Codex Dresden*: a) p. 25, b) p. 26.

WORD INDEX

A

- A*, Aguacateca, 38.
a, Kiche, 38.
a, Uspanteca, 38.
aa, Mam, 38.
aahkwa, Chimila, 119.
aape, Zapotec, 43.
ab, Kekchi, 38.
ab, Kiche, 38.
ab, Maya, 38.
aba, Chibcha, 115.
aban, Pokonchi, 38.
abati, Tupi, 119.
abatim, Tupi, 119.
abem, Pokonchi, 38.
abiad, Arabic (Beran), 113.
abiādun, Arabic (Adirar), 113.
abiš, Pokonchi, 119.
ablil, Maya, 38.
abode, Gala, 16.
aboir, Arabic (Beran), 113.
Aburo Kyiri, Tchi, 113.
aburow, Ashante, 115.
abyad, Arabic, 112, 119.
ači, Hausa, 74, 117.
ači, Zapotec, 119.
ačín, Huasteca, 38.
ačiš, Huasteca, 38.
'addel, Shilha, 27.
'adel, Shilha, 27.
'adl, Arabic, 27.
'adlān, Arabic, 27.
āgbā, Opanda, 111.
agbade, Dahome, 111.
agbado, Yoruba, 111.
ager, Awelimmiden, 1.
ager, Zenaga, 1.
āgwa, Opanda, 111.
agwado, Yoruba, 111.
agwāgwa, Egbira-Hima, 111.
agwal, Tzendal, 152.
ah, Kekchi, 152.
ah, Maya, 152.
ah, Wargla, 25.
aha, Cuchan, 38.
ahab, Huasteca, 152.
ahan, Huasteca, 152.
ahau, Maya, 151 f.
ahha, Mohave, 38.
akhatik, Huasteca, 152.
ahnai, Accawai, 115.
ahot, Ayook, 45.
ahpul, Maya, 166.
ahpulhaab, Maya, 166.
ahpulhah, Maya, 166.
ahšiš, Harakta, 74, 117.
ahti, Cora, 38.
ahwel, Huasteca, 152.
ahwil, Huasteca, 152.
ai, Guatuso, 119.
aihnaiin, Paravilhana, 115.
aima, Cacaopera, 120.
'aiš, Arabic, 101.
aits, Huasteca, 86.
akāba, Kupa, 111.
akāgwa, Igola, 111.
ākalāba, Basa, 111.
akarāba, Ewe, 111.
akatl, Nahuatl, 152.
akerdha, Mzab, 1.
akersin, Kabyl, 46.
aknače, Tamanaque, 115.
aknakke, Tamanaque, 115.
Akoran, Guanche, 66.
akur, Kabyl, 1.
ākūr, Kabyl, 46.
ald'uma, Wolof, 35.
al ġum', Arabic, 16.
aljimaa, Hausa, 35.
aljumma, Hausa, 35.
Allah, Arabic, 49.
Alla sira, Bambara, 117.
altia, Nahuatl, 38.
am, Ulua, 120.
ama, Opatoro, 120.
-ama, Sesuto, 23.
amaiya, Mohave, 50.
-amba, Swahili, 23.
-ambika, Swahili, 23.
-ambisa, Swahili, 23.
amekarad, Kel-Wi, 1.
amek'ran, Kabyl, 44.
amelil, Kabyl, 92.
amid, Bedauey, 15.
amit, Bedauey, 15.
amkerdhan, Wargla, 1.
amr'ar, Shawiah, 44.
anači, Bakairi, 115.
anahi, Bakairi, 115.
anai, Makusi, 115.
anaim, Ipurucote, 115.
anales, Spanish, 148.
analtehes, Maya, 148.
-anana, Kongo, 31.
anares, Maya, 148.
añaze, Chayma, 115.
anilo, Maya, 148 ff.
año, Spanish, 150.
apak, Lepcha, 112.
ape, Zapotec, 43.
apoto, Bulom, 113.
appe, Zapotec, 43.
'āgrab, Arabic, 81.
arahi, Bakairi, 115.
'arbā'ah, Arabic, 30.
ard'uma, Malinke, 35.
'armā, Arabic (Jewish), 143.
'arram, Arabic, 32, 143.
'arrem, Harakta, 143.
'arrem, Shawiah, 143.
a-sa, Bayanzi, 109.
Ašaman, Guanche, 66.
asamči, Uspanteca, 116.
ašaqqūr, Berber, 78.
ašbor, Kabyl, 99.
ašbur, Kabyl, 99.
ašḥa, Zenaga, 151.
asher, Mzab, 1.
asmnai, Cuchan, 50.
at, Niquiran, 38.
atābu, Landoma, 113.
ati, Nahuatl, 38.
atilia, Nahuatl, 38.
atin, Kiche, 38.
atinebal, Kekchi, 38.
ating, Kekchi, 39.
atisi, Kekchi, 38.
atl, Nahuatl, 38 f.
atlatl, Nahuatl, 39.
atlawia, Nahuatl, 39.
Atlayawikan, Nahuatl, 40.

atle, Nahuatl, 89.
atl-tlačinolli, Nahuatl, 39.
atoyatl, Nahuatl, 39.
atoyawia, Nahuatl, 39.
ārpakros, Greek, 107.
au, Pokonchi, 119.
aude, Zenaga, 32.
auh, Nahuatl, 39.
au, Kabyl, 32.
‘āun, Arabic, 32.
āun, Berber, 32.
-auni, Swahili, 33.
‘aūrah, Arabic, 47.
avaty, Tupi, 115.
avaty, Tupi, 115.
awaci, Oyampi, 115.
awah, Rif, 25.
awal, Jacalteca, 119.
awasi, Oyampi, 115.
awate, Cocanca, 115.
āwi, Shilha, 32.
-awini, Swahili, 33.
awiš, Pokoman, 119.
aya, Misquito, 119.
ayaze, Chayma, 115.
azan, Gbari, 27.
azna, Gbari, 27.

B

Ba, Malinke, 95.
bā, Vai, 95.
baa, Comanche, 38.
baal, Maya, 94.
baala kah, Maya, 94.
bab, Kabyl, 91.
bābā, Arabic, 96.
baba, Hausa, 92.
baba, Mandingo, 113.
baba, Peul, 96.
baba, Songay, 96.
baba-nyo, Mandingo, 114.
babba, Hausa, 96.
bābo, Banyan, 113.
bač, Maya, 124.
bače, Cahita, 119.
baḍaṅṅan, Arabic, 112.
badi, Peul, 96.
badin, Khasonke, 95.
badūre, Kanuri, 113.
baḥlam, Pokonchi, 138.
baiādūna, Arabic (Adirar), 113.

baidaṅṅan, Arabic, 112.
baida'u, Arabic, 112.
baizes, English, 9.
baku, Soso, 95.
bal, Mande, 138.
bal, Maya, 94.
-bal, Peul, 96.
bala, Malinke, 95.
bala, Soso, 95, 138.
balah, Maya, 94.
balam, Maya, 138.
balan, Bambara, 95, 138.
balan, Malinke, 138.
balan, Soso, 95.
balaq, Maya, 95.
balaquntah, Maya, 94.
Balarabi, Hausa, 113.
balau, Bambara, 138.
balā'un, Arabic, 138.
balče, Maya, 94.
bale, Soso, 95, 138.
balibitelal, Huasteca, 94.
balima, Bambara, 95.
balimaya, Bambara, 95.
balinah, Maya, 94.
balintah, Maya, 94.
balkah, Maya, 94.
balna, Maya, 94.
balqaš, Maya, 94.
balth'an, Maya, 94.
ba-luṅgu, Ronga, 114.
bambāwo, Sarar, 113.
bana, Soso, 138.
banama, Bambara, 138.
bap, Annamese, 112.
bar, Kizh, 38.
barabara, Soninke, 95.
barama, Malinke, 138.
bare, Wolof, 138.
bari, Bambara, 138.
barin, Khasonke, 95.
barin, Soso, 95.
barmude, Peul, 138.
baru, Nubian, 31.
batauk, Huasteca, 124.
bate, Seri, 119.
batūle, Kambali, 113.
bature, Kandin, 113.
baturi, Hausa, 113.
bayaḍ, Arabic, 112.
ba-zuṅgo, Ronjero, 114.

been, Maya, 57.
begočii, Zapotec, 42.
beke, Zapotec, 42.
belebele, Bambara, 95.
ben, Maya, 57.
beñe, Kono, 57.
bendege, Kanuri, 57.
bendere, Kanuri, 57.
ber, Songay, 96.
bhūta, Kumaon, 112.
bhutta, Bengali, 112.
bhuṭṭā, Hindu, 112.
bial, Huasteca, 94.
bialtem, Huasteca, 94.
bialtuhub, Huasteca, 94.
bidiga, Nupe, 57.
bila, Malinke, 95.
bila, Peul, 96.
bindeg, Arabic (Wadai), 57.
bindega, Kandin, 57.
bindiga, Hausa, 57.
bindigari, Peul, 57.
biñe, Malinke, 57.
bioḍani, Hassania Arabic, 113.
biran, Bambara, 95.
biranke, Bambara, 95.
biri, Malinke, 96.
bīša, Bode, 113.
Bod, Tibetan, 112.
bok, Texistepec, 119.
bol, Maya, 95.
bolčal, Huasteca, 94.
boli, Huasteca, 94.
boltē, Huasteca, 94.
bomadza, Pepel, 109.
bombābu, Bola, 113.
bōmbābu, Pepel, 113.
Bostun, Chinook J., 8.
būddi, Chamir, 16.
budenga, Basa, 57.
bumad, Bola, 109.
bumadza bumbāwa, Pepel, 109.
bumagi, Kanyop, 109.
bumbāwa, Pepel, 114.
buñ, Bambara, 95.
bun, Malinke, 81.
buna, Malinke, 81.
bundega, Arabic (Soa), 57.
bundera, Kamuku, 57.
bundo, Malinke, 81.
bunduq, Arabic, 57, 81.

buntenen, Malinke, 81.
buro, Tchi, 113.
burofo, Tchi, 113.
butta, Bombay, 112.
buṭṭi, Amharic, 16.

C

Čaak, Maya, 42.
č'ab, Maya, 100.
č'ab, Pokonchi, 100.
čabčam, Huasteca, 99.
čačapani, Nahuatl, 51.
č'ah, Maya, 51.
č'ah, Uspanteca, 51.
čak, Maya, 42.
čakauhal, Maya, 42.
čakoh, Maya, 42.
čakwani, Nahuatl, 58, 59.
čalčiwitl, Nahuatl, 75.
-čanga, Swahili, 33.
-čangaña, Swahili, 33.
-čango, Swahili, 33.
čapani, Nahuatl, 51.
capawilaughte, Chinook J., 9.
capot, French, 9.
cappoe, English, 9.
čaš, Mam, 75.
č'eh, Maya, 51.
č'el, Maya, 75.
čen, Maya, 96.
č'enah, Maya, 96.
chamass, Nootka, 11, 13.
chapeau, French, 7.
chappellet, Chinook J., 7.
chapelel, Chinook J., 13.
chepalel, Chinook J., 7.
chiapuz, Nootka, 7.
či, Hausa, 101.
či, Maya, 101.
čiah, Maya, 101.
čiawa, Hausa, 74, 117.
čičipini, Nahuatl, 51.
čidzi, Hausa, 101.
čigar, Abyssinian, 117.
č'ipul, Kekchi, 51.
-čima, Nyamwezi, 28.
činki, Ande, 115.
č'ip, Pokonchi, 51.
čipini, Nahuatl, 51.
čipuli, Nahuatl, 51.
čira, Hausa, 118.

circus, Latin, 107.
čizo, Hausa, 101.
č'ol, Kekchi, 47.
č'ol, Pokonchi, 47.
č'ol, Uspanteca, 47.
č'olem, Pokonchi, 47.
č'olob, Kekchi, 47.
-čoma, Swahili, 28.
commas, English ghostword, 11.
-čomo, Swahili, 28.
čopinia, Nahuatl, 100.
čuh, Maya, 81.
čukul, Huasteca, 46.
-čunga, Swahili, 33.
-čungu, Swahili, 33.

D

Da, Bambara, 34.
-d'a, Bantu, 27.
dā, Dyula, 28.
da, Mande, 34, 36.
dā, Mande, 36.
dab, Somali, 31.
daba, Peul, 32.
d'aba, Peul, 32.
ḍabb, Arabic, 31.
daga, Soninke, 26.
dagar, Soho, 118.
dagara, Arabic, 2.
dagr, Arabic, 2.
dagra, Arabic, 2.
d'aha, Peul, 80.
d'ahale, Peul, 80.
d'ahande, Peul, 27.
d'ahe, Peul, 80.
daidai, Hausa, 27.
daka, Hausa, 2.
dakara, Hausa, 2.
dakare, Peul, 2.
dakared'o, Peul, 2.
dakka, Arabic, 2.
dakka, Hausa, 2.
dala, Bambara, 34.
dala, Kafir, 34.
dalamena, Bambara, 25.
dalamita-lila, Malinke, 25.
dam, Mande, 36.
d'ama, Bambara, 128.
d'amā, Malinke, 20, 128.
dama, Mande, 36.
d'amā'a, Peul, 19.
d'amafu, Bambara, 128.
d'amana, Khasonke, 128.
d'amani, Malinke, 20, 128.
damasali, Pika, 109.
damasara, Kandin, 109.
d'amaso, Bambara, 128.
dambō, Mende, 26.
d'ambu, Kongo, 22.
d'ambu, Peul, 22.
dame, Hausa, 31.
damfare, Hausa, 32.
dami, Dyula, 28.
dami, Somali, 31.
damkam, Hausa, 32.
damke, Hausa, 32.
ḍamm, Arabic, 31.
ḍammah, Arabic, 31.
d'amo, Malinke, 20.
damre, Peul, 32.
d'amu, Malinke, 20.
dan, Mande, 36.
dankira, Hausa, 2.
d'apa, Wolof, 32.
d'apu, Wolof, 32.
dar, Songay, 34.
dari, Songay, 34.
darra, Arabic, 108.
dasara, Arabic, 2.
dau, Peul, 32.
dauka, Peul, 32.
de, Bribri, 39.
d'e, Malinke, 128.
d'ebu, Peul, 32.
dedei, Kandin, 37.
deger, Berber, 2.
deḥai, Gbandi, 117.
dehe, Otomi, 39.
dela, Bambara, 34.
demde, Peul, 30.
deme, Peul, 32.
demgal, Peul, 30.
demi, Peul, 32.
demke, Peul, 32.
ḍemma', Kabyl, 28.
demma, Wolof, 26.
demmu, Wolof, 28.
demo, Malinke, 28.
dendele, Kasm, 30.
dene, Songay, 30.
dertits, Cocoma, 119.
d-esa, Ngola, 109.

d'eta, Peul, 32.
dgr, Hebrew, 2.
dhier, A. Khalfun, 1.
di, Bribri, 39.
di, Cuna, 39.
di, Tiribí, 39.
di, Vai, 117.
diama, Wolof, 26, 28.
dibābo, Banyun, 114.
didi, Peul, 29.
digi, Bambara, 2.
digi, Khasonke, 2.
-dimba, Kafir, 19.
dime, Nubian, 31.
dimi, Malinke, 28.
dimin, Nubian, 31.
dirka, Hausa, 2.
dita, Atanques, 39.
diuke, Wolof, 143.
diwāwo, Banyun, 114.
dla, Bambara, 34.
do, Peul, 32.
dō, Texistepec, 39.
dogaranke'd'o, Peul, 2.
dogare, Hausa, 2.
dogari, Hausa, 2.
dogari'd'o, Peul, 2.
dogumbal, Tubatolobal, 50.
dogumbanabi, Shiqavikan, 50.
doḡa, Wolof, 26, 80.
doḡe, Wolof, 80.
d'oi, Peul, 32, 143.
doka, Peul, 32.
doke, Hausa, 2.
dokkeme, Bagirmi, 20.
d'okkere, Peul, 143.
d'okkude, Peul, 33, 143.
-d'ola, Nyamwezi, 34.
dolu, Mende, 143.
-dom, Dualla, 20.
-doma, Dualla, 20.
doñ, Bambara, 146, 171.
d'onti, Peul, 82.
door, Dwama, 143.
dora, Hausa, 33, 143.
doro, Hausa, 33.
douka, Kandin, 32.
d'oure, Peul, 32, 143.
d'owe, Peul, 33, 143.
duḡāḡ, Arabic, 75.
dugbela, Hopi, 50.

dugubat, Mohineyam, 50.
dug'umbaiah, Chamahuevo, 50.
dugušbowi, Gitanemuk, 50.
duk, Persian, 108.
duka, Hausa, 2.
d'uka, Peul, 2, 59.
dukia, Peul, 32.
dukwaš, Cahuila, 50.
-duli, Kafir, 35.
d'ula, Malinke, 24, 33.
d'ula, Peul, 33.
d'ulanko, Peul, 33.
-dula, Kafir, 35.
dulu, Bambara, 143.
d'ulu, Malinke, 33.
dulu, Mande, 33.
-dumba, Kafir, 19.
dumme, Nubian, 31.
dun, Malinke, 82.
dunā, Malinke, 82.
d'ungu, Malinke, 33.
d'ungun, Bambara, 33.
d'unkun, Bambara, 33.
dupaš, Luiseño, 50.
dupitš, Don Juan Capistrano, 50.
d'ur, Wolof, 143.
d'uru, Bambara, 33, 143.
duru, Mande, 33.
d'urum, Wolof, 32, 143.
d'urume, Malinke, 33.
d'urumo, Malinke, 33.
dusur, Arabic, 2.
dwom, Mpongwe, 20.
-dza, Munsí, 27.
dzā fūqin, Arabic, 145.
-dzende, Munsí, 27.
džip, Maya, 116.
džus, Bantu, 75.

E

Eči, Zenaga, 101.
edjer, Gdames, 1.
edznab, Maya, 67.
ekčuh, Maya, 81.
ekukumba, Luganda, 16.
em, Huasteca, 119.
em, Kiche, 41.
emel, Kiche, 41.
emel, Maya, 41.
emelhanal, Maya, 41.

emmer, Bilin, 15.
emmerā, Bilin, 16.
empologoma, Luganda, 16.
enai, Roucouyenne, 115.
enak, Maquiritare, 115.
-enda, Bantu, 27.
eš, Bedauey, 101.
eš, Mzab, 101.
esanab, Maya, 67.
eššabir, Tamazir't, 99.
etspa, Zoque, 38.
etūra, Kupa, 113.
eu, Murire, 119.
eyma, Chiquimulilla, 120.
ezna, Gbari, 27.

F

Fa, Bambara, 18, 145.
fa, Dyula, 18, 145.
-fa, Kafir, 18.
fa, Khasonke, 18.
-fa, Luganda, 18.
fa, Malinke, 18, 145.
fa, Peul, 18.
-fa, Shambala, 18.
-fa, Swahili, 18.
fa, Vai, 18, 145.
-faa, Swahili, 29.
faba, Bambara, 19.
-faea, Sesuto, 18.
-fafaniša, Swahili, 29.
fāga, Malinke, 145.
faha, Khasonke, 18.
faḡa, Malinke, 18, 145.
-faḡa, Sesuto, 18.
faḡa, Soso, 18.
faissa, Wolof, 18, 145.
-faka, Kafir, 18.
-faka, Sesuto, 18.
fakha, Soso, 145.
fale, Bambara, 29.
faliñ, Khasonke, 29.
fama, Bambara, 18.
fama, Malinke, 145.
fan, Chinese, 112.
fana, Bambara, 29.
fana, Dyula, 29.
fana, Khasonke, 29.
fa'na, Khasonke, 19.
-faña, Swahili, 29.
-fanana, Swahili, 29.

fanga, Bambara, 18.
fanga, Khasonke, 19.
fangama, Malinke, 18.
fangantan, Malinke, 19.
fani, Khasonke, 29.
fani, Vai, 29.
-fanikia, Swahili, 29.
-fañikia, Swahili, 29.
faniña, Bambara, 29.
fanka, Khasonke, 19.
fankama, Khasonke, 19.
fankamala, Khasonke, 19.
fantan, Bambara, 18.
fantan, Khasonke, 18.
faorde, Peul, 18.
faq, Arabic, 17.
faq, Berber, 18.
fara, Vai, 29.
faranda, Vai, 29.
faraga, Arabic, 71.
fare, Vai, 18.
farha, Dyula, 18, 145.
farha, Khasonke, 18.
farhama, Dyula, 19, 145.
farhandē, Dyula, 19, 145.
fāriq, Arabic, 71.
fawa, Hausa, 18 f.
fawa, Peul, 18 f.
fawike, Peul, 18.
faya, Hausa, 18.
fe, Mende, 145.
-fela, Kafir, 18.
fēla, Mende, 29.
-fela, Sesuto, 18.
fēle, Mende, 29.
fēna, Peul, 29.
fēña, Peul, 29.
fenkare, Soso, 57.
fera, Vai, 29.
feranden, Vai, 29.
fēre, Peul, 29.
fere, Vai, 29.
fewa, Peul, 29.
fiddi, Dyalonke, 29.
-figwa, Shambala, 18.
-fi, Shambala, 18.
-fi'ka, Luganda, 18.
fila, Bambara, 29.
fila, Dyula, 29.
-file, Shambala, 18.
finkali, Dyalunke, 57.
finkari, Peul, 57.

fira, Dyula, 29.
firhi, Khasonke, 29.
firi, Khasonke, 29.
-fisa, Kafir, 18.
fla, Bambara, 29.
flamā, Bambara, 29.
flani, Bambara, 29.
flani, Berber, 29.
flaniū, Bambara, 29.
forotōno, Soso, 113.
forotūe, Soso, 113.
fortankedžo, Peul, 113.
fow, Peul, 18.
frani, Berber, 29.
fu, Bambara, 145.
-fu, Luganda, 18.
-fu, Nika, 18.
-fu, Nyamwezi, 18.
fu, Peul, 18.
-fu, Sesuto, 18.
-fu, Swahili, 18.
fua, Malinke, 36.
fuaña, Malinke, 36.
fuf, Peul, 18.
-fufu, Nika, 18.
-fufuka, Nyamwezi, 18.
fuk', Berber, 145.
fuk, Wolof, 145.
-fuka, Luganda, 18.
-fuka, Nyamwezi, 18.
-fuka, Shambala, 18.
-fuka, Swahili, 18.
-fukia, Swahili, 18.
-fukila, Nyamwezi, 18.
-fuko, Luganda, 18.
-fukuka, Nyamwezi, 18.
fula, Malinke, 29.
fulamā, Bambara, 29.
-fulama, Nyamwezi, 29.
-fulana, Nyamwezi, 29.
fulāni, Arabic, 29.
fulanī, Malinke, 29.
fulaniñ, Khasonke, 156.
fulantun, Khasonke, 157.
-fulika, Nyamwezi, 34.
-fulube, Luganda, 18.
-fuma, Nika, 17.
-fuma, Nyamwezi, 28.
-fuma, Sesuto, 18.
-fuma, Swahili, 28.
-fumane, Sesuto, 18.
-fumanehi, Sesuto, 18.

-fumba, Kafir, 19.
-fumba, Nika, 17.
-fumbata, Kafir, 19.
-fumo, Swahili, 18, 28.
funa, Malinke, 36.
-funa, Nyamwezi, 17.
fune, Peul, 29.
fune, Soninke, 29.
funebe, Peul, 29.
funere, Peul, 29.
-funga, Nyamwezi, 33.
-funga, Swahili, 33.
fungei, Toronka, 57.
fungu, Swahili, 33.
funkari, Malinke, 57.
fuq, Arabic, 17.
fuq, Berber, 18.
furacan, Taino, 71.
furi, Soso, 46.
furqān, Arabic, 71.
-fuwa, Shambala, 18.
fuwūq, Arabic, 145.
-fwa, Kongo, 19.
-fwa, Nyamwezi, 18.
-fwafwana, Nyamwezi, 18.
-fwila, Nyamwezi, 18.
-fwila, Shambala, 18.
-fwilwa, Nyamwezi, 18.
-fwiza, Shambala, 18.
-fwizia, Nyamwezi, 18.
-fwizila, Nyamwezi, 18.

G

Gadim, Arabic (Soa), 44.
gafal, Arabic, 96, 138.
gafla, Kabyl, 96.
gaḥa, Siwa, 25.
gale, Gurma, 108.
ḡam', Arabic, 15, 22.
gama, Hausa, 20.
gama, Mende, 21.
ḡama, Nubian, 15.
ḡama'a, Arabic, 15.
gamad, Saho, 15.
-gamba, Luganda, 23.
-gamba, Nyamwezi, 23.
-gambo, Luganda, 23.
ḡamī', Arabic, 128.
gami, Hausa, 20.
ḡamm, Nubian, 15.

gamman, Nubian, 15.
gamme, Nubian, 15.
gamu, Hausa, 20.
gamua, Hausa, 20.
gappe, Zapotec, 43.
gāwars, Arabic, 110.
gāwarš, Arabic, 110.
gawars, Persian, 110.
gazi, Arabic, 108.
gbade, Toma, 57.
gbai, Gbese, 111.
gbande, Mende, 57.
gbandei, Gbande, 57.
gbara, Gbese, 57.
gbuludi, Soso, 29.
gefel, Kabyl, 96.
-genda, Bantu, 27.
ger, Ahaggar, 1.
gerasan, Kanuri, 108.
germi, Zenaga, 28.
germuth, Zenaga, 28.
gerze, Songay, 108.
gese, Malinke, 108.
gfel, Hassania Arabic, 108.
girma, Hausa, 44.
gm', Arabic, 21 f.
gmer, Berber, 88.
gom, Nubian, 15, 17.
goma, Hausa, 20, 128.
gōma, Mende, 21.
-goma, Nika, 17, 19.
-goma, Nyamwezi, 17.
gomba, Mende, 21.
gōme, Mende, 21.
-gomela, Nyamwezi, 17.
-gomeša, Nyamwezi, 17.
gómia, Nubian, 15, 17.
-gomoka, Nyamwezi, 17.
-gōnde, Nika, 17.
-gquma, Kafir, 19.
guà, Araucanian, 115.
-gula, Nyamwezi, 34.
-gulugulu, Nyamwezi, 34.
gum', Arabic, 15, 22.
-guma, Nika, 17.
gumade, Saho, 15.
gum'at, Arabic, 15.
-gumia, Nika, 17.
gumma', Arabic, 128.
-guna, Nyamwezi, 33.
gyerema, Ashante, 30.

H

'H, Maya, 152.
ha, Chanabal, 38.
ha, Kekchi, 38.
ha, Kiche, 38.
ha, Maya, 38.
ha, Peul, 38.
ha, Pokonchi, 38.
ha, Subinha, 38.
ha, Uspanteca, 38.
haa, Tzendal, 38.
haab, Maya, 38, 150.
haarik, Kiche, 38.
hab, Kekchi, 38.
hab, Pokonchi, 38.
habā, Arabic, 59, 102.
habal, Uspanteca, 38.
habān, Arabic, 59, 102.
habih, Kiche, 38.
habik, Pokonchi, 38.
habil, Maya, 38.
habinik, Kiche, 38.
hači, Hausa, 117.
hādde, Peul, 18.
haha, Kekchi, 38.
haki, Hausa, 117.
hakukua, Hausa, 117.
halbi, Hausa, 28.
-hama, Nyamwezi, 26.
hama, Peul, 26.
hamak, Simo, 119.
han, Khasonke, 157.
hanib, Comanche, 119.
hānnude, Peul, 18.
harba, Arabic (Wadai), 28.
harbah, Arabic, 28.
harbi, Hausa, 28.
harku, Khasonke, 87.
hašiš, Arabic, 74, 117.
hašiš, Beni Menacer, 74, 117.
hatsi, Hausa, 117.
hättude, Peul, 18.
he, Khasonke, 152.
heu, Muoi, 119.
heya, Zoque, 152.
hi, Move, 119.
himsi, Cahita, 120.
hinsi, Eudeve, 120.
-hlangana, Kafir, 33.
-hlanu, Bantu, 33.
ho, Maya, 145.

ho', Peul, 21.
hob, Kekchi, 45.
hob, Kiche, 45.
hobah, Maya, 45.
hobe, Kiche, 45.
hobnel, Maya, 45.
hobo, Kiche, 45.
hobol, Kekchi, 45.
hobon, Maya, 45.
hoč, Maya, 45 f.
hočah, Maya, 45 f.
hočbiqevél, Maya, 45 f.
hočdzib, Maya, 45.
hočkab, Maya, 45.
hoh, Kiche, 45.
hoh, Maya, 45.
hohak, Maya, 45.
hohmil, Pokonchi, 45.
hohol, Pokonchi, 45.
hohool, Maya, 44.
hohpam, Pokonchi, 45.
hoitik, Ayook, 45.
hoitp, Ayook, 45.
hok, Pokonchi, 45.
hol, Huasteca, 45.
hol, Kiche, 45.
hol, Maya, 44.
holan, Maya, 44.
holčal, Huasteca, 45.
holči, Maya, 44.
holi, Huasteca, 45.
holni, Maya, 44.
holom, Kekchi, 45.
holom, Pokonchi, 45.
hom, Kekchi, 45.
hom, Maya, 45.
-homa, Sesuto, 19.
homa, Zoque, 45.
homhom, Maya, 45.
hoo, Tzotzil, 38.
hool, Maya, 44.
hoom, Kekchi, 45.
hoot, Ayook, 45.
hopil, Pokonchi, 45.
hopoq, Kekchi, 45.
hoq, Maya, 45.
hoqol, Maya, 45.
hoqzah, Maya, 45.
hore, Peul, 21, 45.
hore, Uspanteca, 45.
hot, Ayook, 45.
hothuih, Ayook, 45.

hotök, Ayook, 45.
hotsuk, Maya, 145, 150.
hotu, Maya, 145.
ho-tu-baq, Maya, 144.
hotuih, Ayook, 145.
ho-tuk, Pokonchi, 146.
ho-tu-yoš-baq, Maya, 144.
houhtik, Ayook, 45.
hout, Ayook, 45.
hoy, Zoque, 45.
hoyah, Maya, 45.
hoyan, Kiche, 45.
hoye, Kiche, 45.
hššš, Shawiah, 74, 117.
hu, Tzotzil, 86.
hua, Araucanian, 115.
huč, Kiche, 45.
huik, Ayook, 45.
huitn, Ayook, 45.
huki, Zoque, 101.
hul, Ixil, 45.
hul, Kekchi, 45.
hul, Kiche, 45.
hul, Pokonchi, 45.
hul, Uspanteca, 45.
-hūla, Nyamwezi, 34.
-hūlika, Nyamwezi, 34.
hultik, Kekchi, 45.
humahali, Sesuto, 18.
huna, Papago, 119.
hunabqu, Maya, 71.
hunahpu, Kiche, 152.
hune, Pima, 119.
hune, Tepehuan, 119.
huntuk, Maya, 146.
hun-tu-gal, Maya, 144.
hun-tu-wak-gal, Maya, 144.
hunu, Opata, 119.
hunu, Pima, 119.
hunuqu, Maya, 71.
hunut, Eudeve, 119.
Hurakan, Kiche, 71.
hūrōa, Landoro, 113.
hut, Ayook, 45.
hut, Maya, 145.
huut, Ayook, 45.
huzuka, Keres, 50.

I

I'arrem, Shawiah, 143.
iashš, Zenaga, 151.

ibač, Maya, 124.
iber, Songay, 96.
iboy, Mayance, 124.
ibui, Kabyl, 32.
iči, Tlapaneco, 119.
iči, Zapotec, 119.
ičimu, Nyamwezi, 28.
ičin, Maya, 38.
ičtekapol, Nahuatl, 94.
ier, Beni Menacer, 1.
ifugen, Berber, 18.
ifune, Nyamwezi, 17.
ifungu, Nyamwezi, 33.
ifuq, Berber, 18.
igome, Mpongwe, 20.
ih, Pokonchi, 116.
iha, Huasteca, 38.
ihiotia, Nahuatl, 40.
ikimu, Nyamwezi, 28.
ikvo, Bribri, 119.
ikwe, Pueblo de Cachi, 119.
ikwu, Estrella, 119.
ili-fa, Kafir, 18.
Illah, Arabic, 49.
ilwikatl, Nahuatl, 49.
ima, Chilanga, 120.
iman, Djebel Nefusa, 91.
imaštli, Nahuatl, 120, 124.
imaulan, Kabyl, 91.
imiš, Maya, 124.
imoš, Cakchiquel, 124.
imsegge, Affade, 118.
imzar sekka, Klesem, 118.
inakowah, Tesuque, 50.
inda, Chocho, 39.
-ingi, Swahili, 33.
infigge, Buduma, 118.
in šopalewak, Nahuatl, 75.
iš, Mzab, 101.
iš, Pokonchi, 119.
iši, Subiaba, 119.
išim, Maya, 119.
išim, Pokonchi, 119.
išin, Ixil, 119.
isinči, Pokonchi, 116.
isinene, Zulu, 37.
isis, Huasteca, 119.
ismal, Pokonchi, 116.
isumu, Nyamwezi, 28.
išugar, Berber, 78.
itemlil, Kabyl, 92.
i'tidālān, Arabic, 27.

its, Kiche, 86.
its, Maya, 66.
itsam, Huasteca, 66.
itsam, Maya, 66.
itsamkab, Maya, 69.
Itsamna, Maya, 66.
itsat, Maya, 72.
itsi, Huasteca, 101.
itsik, Huasteca, 101.
itsim, Tzotzil, 116.
itsimal, Chanabal, 116.
itskali, Nahuatl, 71.
itspapalotl, Nahuatl, 100.
isttik, Nahuatl, 67.
isttilia, Nahuatl, 72.
isttlan, Nahuatl, 72.
isttli, Nahuatl, 67.
itta, Nahuatl, 72.
itungu, Nyamwezi, 33.
iyolik, Nahuatl, 47.
iyollo, Nahuatl, 48.

J

-Ja, Bantu, 27.
-ja, Munsu, 27.
jagong, Malay, 114.
jāma, Mende, 22.
jamaa, Swahili, 19.
jamba, Mende, 21.
jambō, Mende, 21.
jambo, Swahili, 21.
jawār, Hindustani, 110.
jawāra, Hindustani, 110.
jema, Luganda, 17.
jembe, Mende, 22.
jemula, Luganda, 17.
jia, Mende, 25.
jigamba, Swahili, 23.
jigge, Kurry, 118.
jomba, Nyamwezi, 23.
jombo, Mende, 21.
jomma, Imbana, 20.
joṇdi, Hindustani, 110.
joṇdri, Hindustani, 110, 114.
ju'ār, Hindustani, 110, 114.
junarī, Hindustani, 110.
jundi, Hindustani, 110.
junharī, Hindustani, 110.
junrī, Hindustani, 110.
juwāra, Hindustani, 110.

K

- Ka*, Bambara, 157.
ka, Maya, 158.
kā, Malinke, 22.
kā, Mende, 22.
kab, Maya, 100, 102.
kaba, Bambara, 59, 102.
kaba, Malinke, 111.
kāba, Peul, 111.
kaban, Maya, 102.
kabaraqan, Uspanteca, 102.
kabe, Soso, 111.
kabei, Soso, 111.
kabena, Soso, 111.
kablano, Ixil, 102.
kabraqan, Kiche, 42, 102.
kadaru, Kannada, 110.
kadīr, Kannada, 110.
kaff, Arabic, 17.
kafu, Khasonke, 22.
kag, Kiche, 42.
kah, Kekchi, 42.
kahana, Yabuti, 115.
kahog, Tzendal, 42.
kahok, Pokonchi, 42.
kahu, Khasonke, 87.
kai, Hausa, 21.
kakandin, Khasonke, 158.
kalām, Arabic, 30.
kalama, Arabic, 30.
kalo, Bambara, 87.
kalu, Malinke, 87.
kam, Ixil, 127.
kam, Kekchi, 127.
kāma, Mende, 21, 128.
kama, Peul, 26.
kamana, Mosi, 111.
kamande, Guresa, 111.
kamande, Mosi, 111.
kamari, Khasonke, 22, 128.
kāmba, Mende, 21, 128.
kamba, Vai, 128.
kamben, Bambara, 22.
kamik, Uspanteca, 127.
kammas, Chinook J., 11.
kamsa, Pokonchi, 35.
kamsi, Kekchi, 127.
kañ, Bambara, 157.
kan, Malinke, 22, 86.
kana, Bambara, 118.
kana, Malinke, 86.
kanak, Conyana, 115.
kaname, Bambara, 25.
kanamene, Bambara, 25.
kani, Bambara, 158.
kānjo, Mende, 20.
kañki, Kannada, 110.
kansah, Pokonchi, 127.
kante, Maya, 149.
kantsam, Pokonchi, 127.
kanua, Hausa, 21.
kaoq, Cakchiquel, 42.
kapo, Chinook J., 29.
kaq, Kekchi, 42.
karābu, Kambali, 111.
karawa, Esitoka, 111.
karo, Malinke, 87.
karš, Arabic, 46.
karu, Malinke, 87.
kat, Maya, 158.
katmat, Maya, 158.
katsaka, Malagassy, 114.
katsabazaha, Malagassy, 114.
kāwa, Basa, 111.
kawa, Nahuatl, 42.
kāwa, Nupe, 111.
kawa, Zapotec, 42.
kawak, Maya, 42.
kbīr, Hassania Arabic, 46.
ke, Bambara, 151.
ke, Malinke, 151.
kebābu, Landoma, 114.
kebber, Hassania Arabic, 96.
κέρχρος, Greek, 110.
keh, Maya, 90.
kekañi, Malinke, 151.
kem, Ixil, 127.
k'em, Pokonchi, 35.
kema, Bambara, 151.
kemi, Nahuatl, 35, 127.
kemil, Nahuatl, 127.
kemonel, Kekchi, 127.
kende, Khasonke, 152.
keñde, Malinke, 151.
kene, Bambara, 151.
kene, Khasonke, 152.
keneya, Bambara, 151.
keñi, Malinke, 152.
kenkabe, Baga, 111.
keren, Khasonke, 152.
kerker, Egyptian, 107.
kesa, Zapotec, 40.
kese, Khasonke, 152.
keseñ, Khasonke, 152.
kherim, Hassania Arabic, 44.
khumma, Soso, 128.
khunsara, Soso, 21.
ki, Mande, 101.
ki, Maya, 101.
ki, Vai, 117.
kiakoh, Caigua, 50.
kiawa, Hausa, 74, 117.
kiawak, Nahuatl, 40.
kiawatl, Nahuatl, 40.
kiawitl, Nahuatl, 40.
kib, Maya, 101.
kibesah, Maya, 101.
kidḍum, Peul, 44.
kie, Zapotec, 42.
kieba, Zapotec, 42.
kiem, Uspanteca, 127.
kifani, Swahili, 29.
kifano, Swahili, 29.
kihiotiki, Nahuatl, 40.
-kima, Nyamwezi, 28.
kimak, Maya, 35, 127.
kimaon, Maya, 127.
kimen, Maya, 127.
kimi, Maya, 35, 127.
kimi, Pokonchi, 35.
kimik, Pokonchi, 127.
kimil, Maya, 127.
kimili, Nahuatl, 127.
kimilli, Nahuatl, 35.
kimilli, Nahuatl, 35, 127.
kimmbona, Guresa, 111.
kin, Mande, 101.
Kintshotsh, Chinook J., 8.
kinya, Vai, 101.
kira, Vai, 117.
κίρκος, Greek, 107.
kisa, Nahuatl, 40.
k'isem, Kekchi, 40.
kisempakkayotl, Nahuatl, 40.
kisentlamiani, Nahuatl, 40.
kisik, Uspanteca, 40.
kisoayan, Nahuatl, 40.
kitemasia, Nahuatl, 40.
kitoani, Nahuatl, 40.
kittani, Nahuatl, 40.
kiungo, Swahili, 33.
kkan, Pinabe, 115.
kkonai, Piapoco, 115.
ko, Dyula, 22.
ko, Vai, 22.

koamati, Nahuatl, 157.
koari, Vai, 22.
koateka, Nahuatl, 157.
koatekill, Nahuatl, 157.
koatl, Nahuatl, 157.
ko'e, Peul, 21.
-kofi, Nika, 17.
koh, Pokonchi, 42.
koĥo, Dyula, 87.
koĥo, Malinke, 87.
koĥok, Pokoman, 42.
kok, Bantu, 75.
kokke, Kannada, 110.
kokom, Maya, 165.
K'ol, Kekchi, 44.
kol, Maya, 44.
koliuhki, Nahuatl, 69.
kol-lakada, Kunama, 20.
kolli, Nahuatl, 44.
koloa, Nahuatl, 44, 81.
kolotl, Nahuatl, 81.
koma, Dyula, 22.
-koma, Kongo, 20.
koma, Mende, 21.
-koma, Nika, 17.
-koma, Nyamwezi, 17.
-koma, Nyanza, 16 f.
-koma, Shambala, 17.
-koma, Ubundu, 20.
-komakana, Kongo, 20.
-komana, Kongo, 20.
kombo, Mende, 21.
-kōme, Mende, 21, 128.
-komena, Kongo, 20.
-komenena, Kongo, 20.
-komera, Nyamwezi, 16.
-komi, Nyanza, 16.
kom(onia), Nahuatl, 165.
kona, Vai, 22.
konči, Huasteca, 158.
-konda, Luganda, 17.
-konda, Ubundu, 20.
-konde, Luganda, 17.
-konde, Nika, 17.
-kondeka, Ubundu, 20.
-kondere, Luganda, 17.
-konga, Shambala, 17.
-konga, Ubundu, 20.
-kongana, Nika, 17.
-kongana, Shambala, 17.
-kongela, Ubundu, 20.
konial, Huasteca, 158.

kono, Malinke, 46.
konoy, Huasteca, 158.
-konsi, Nika, 17.
kor, Timne, 46.
koro, Malinke, 44.
koroma, Malinke, 44.
koro-mandža, Vai, 44.
kos, Maya, 104.
koto, Malinke, 44.
kotoktli, Nahuatl, 157.
kotoma, Malinke, 44.
kotona, Nahuatl, 157.
kotonia, Nahuatl, 157.
kotontlani, Nahuatl, 157.
kotoy, Huasteca, 157.
koyawa, Nahuatl, 46.
koyoktik, Nahuatl, 46.
koyoni, Nahuatl, 46.
ku, Mende, 21.
kubli, Hausa, 96.
kuč, Maya, 166.
kuč-haab, Maya, 166.
kudu, Kannada, 110.
kūh, Persian, 110.
kuĥn, Tesuque, 119.
kūknā, Hindustani, 110.
kukri, Hindustani, 110.
kūkri, Panjabi, 110.
-kukumba, Luganda, 16.
kuli, Krebo, 46.
kulli, Nahuatl, 44.
kulu, Malinke, 44.
kulua, Nahuatl, 44.
kum, Shilha, 16.
-kuma, Kongo, 22.
kuma, Kono, 128.
kuma, Malinke, 22.
kumā, Margi, 20.
kuma, Mende, 21.
-kuma, Nika, 17.
-kuma, Nyamwezi, 16.
-kuma, Nyanza, 16.
-kumana, Kongo, 20.
kūmb, Malinke, 22.
-kumba, Kongo, 20.
-kumba, Luganda, 23.
kūmba, Malinke, 22.
-kumba, Nyamwezi, 16.
-kumba, Ubundu, 20.
-kumbata, Nyamwezi, 16.
kumbe, Dyula, 128.
kumbez, Vai, 128.

-kumbika, Nyamwezi, 16.
-kumbo, Shambala, 17.
-kumi, Kongo, 20.
-kumi, Nyamwezi, 16.
-kumi, Nyanza, 16.
-kumi, Shambala, 17.
-kumia, Nika, 17.
-kumika, Kongo, 20.
-kumilizya, Nyamwezi, 16.
-kuminga, Nyamwezi, 16.
-kumisa, Nika, 17.
-kumizi, Nyamwezi, 16.
kumma, Vai, 128.
-kumpika, Kongo, 20.
-kumu, Nyanza, 16.
-kumuka, Nyamwezi, 16.
-kumya, Nyamwezi, 16.
kūñ, Malinke, 22.
kun, Malinke, 128.
kun, Vai, 128.
kuna, Hausa, 81.
kuña, Hausa, 22.
kuna, Malinke, 22.
-kuna, Nyamwezi, 17.
kunama, Hausa, 81.
-kundama, Luganda, 17.
-kundama, Nyamwezi, 17.
-kundi, Luganda, 17.
-kundi, Nika, 17.
-kundihana, Luganda, 17.
-kundihana, Nyamwezi, 17.
-kundikila, Nyamwezi, 17.
-kundula, Luganda, 17.
-kunga, Nika, 17.
-kunga, Shambala, 17.
-kung'ana, Luganda, 17.
-kungana, Nika, 17.
-kungañiza, Shambala, 17.
-kungula, Ubundu, 20.
kūñ mabo, Malinke, 21.
kunsahe, Soso, 117.
kunsi, Malinke, 117.
kuntigi, Malinke, 22.
kun-tsoñ, Lepcha, 112.
kūr, Arabic, 46.
kuri, Dewoi, 46.
kuru, Malinke, 44.
kuruš, Arabic, 46.
kus, Aguacateca, 104.
kus, Maya, 104.
kuska, Maya, 104.
kuts, Maya, 104.

kwa, Bambara, 87.
kwa, Huasteca, 87.
kwahya, Huasteca, 157.
kwei, Soso, 101.
kweitl, Nahuatl, 87.
kwi, Nahuatl, 155.
kwiltonoa, Nahuatl, 155.
-kwini, Ubundu, 19.
kyekyekende, Mosi, 27.
kyende, Mosi, 27.
kyenghe, Mosi, 27.

L

La, Dyula, 82.
la, Malinke, 34.
la, Mende, 34.
labbi, Peul, 28.
labbo, Peul, 28.
laboos, Chinook J., 11.
lacaset, Chinook J., 11.
lādo, Mende, 34.
lahb, Chinook J., 11.
lakammas, Chinook J., 11.
lal, Wolof, 34.
-lala, Kafir, 34.
-lala, Kongo, 34.
lalā, Malinke, 34.
-lala, Nyamwezi, 34.
-lala, Sesuto, 34.
-lala, Swahili, 34.
lalaba, Hausa, 30.
lālaba, Peul, 30.
lalabe, Hausa, 30.
lalači, Hausa, 30.
lalafa, Hausa, 30.
lalan, Bambara, 34.
-lalana, Swahili, 34.
lalang, Chinook J., 11.
lalaši, Hausa, 30.
lalata, Hausa, 30.
lālāti, Peul, 30.
-lalela, Sesuto, 34.
-laletza, Sesuto, 34.
-lali, Kafir, 34.
-lalika, Nyamwezi, 34.
-lalikila, Nyamwezi, 34.
lam, Maya, 41.
lāma, Mende, 26.
lame, Mende, 26.
lāmbu, Mende, 26.
-lambuka, Kongo, 27.

lana, Hausa, 146.
la pataque, French Canadian, 14.
lapatai, Montagnais, 14.
lapatate, French Canadian, 14.
lapush, Chinook J., 11.
Larabawa, Hausa, 113.
lē, Mende, 31.
leelo, Chinook, 11.
le-fa, Sesuto, 18.
lehšiš, Tamazirt, 74, 117.
lēla, Peul, 34.
lele, Bambara, 30.
lele, Mende, 30.
lēli, Mende, 30.
le loup, French, 11.
li, Mende, 25.
lila, Peul, 34.
lilaši, Hausa, 30.
limasara, Kanuku, 109.
lla, Pupiluka, 38.
lok, Maya, 48.
lolu, Dyalonke, 143.
-lugulu, Nyamwezi, 34.
-luguma, Luganda, 17.
luku, Huasteca, 48.
lulimi, Nyamwezi, 31.
lulu, Malinke, 143.
lulu, Mande, 30.
-lulu, Nyamwezi, 34.
luñ, Malinke, 82, 146.
-lunga, Kongo, 33.
-lunga, Nyamwezi, 33.
-lungisa, Nyamwezi, 33.
-lungula, Nyamwezi, 33.
luntā, Malinke, 82.
luntandin, Khasonke, 82.
luq, Maya, 48.
lūri, Dyula, 143.
luu, Maya, 48.
luumil, Maya, 48.
lyomba, Nyamwezi, 23.

M

Ma, Hausa, 92.
ma, Khasonke, 92.
mā, Malinke, 93.
mač, Kekchi, 120.
mačariq, Arabic, 107.
maçaroca, Portuguese, 106 f.

maceo, Spanish, 108.
macero, Spanish, 108.
maceta, Spanish, 106 f.
mağorca, Arabic, 107.
mađe, Malinke, 93.
mādi, Malinke, 93.
mādiğa, Malinke, 93.
madīnat, Arabic, 1.
madya, Biafada, 109.
mafū, Nika, 18.
magad, Wolof, 44.
magate, Wolof, 44.
magaye, Wolof, 92.
mage, Wolof, 44.
magefla, Hassania Arabic, 96.
magua, Wolof, 92.
mağue, Wolof, 92.
maguya, Wolof, 44.
mahadye, Padzade, 109.
mağama, Khasonke, 92.
mahara, Buduma, 111.
maheky, Coroado, 115.
mai-, Hausa, 92.
mağona, Hausa, 92.
maiki, Mehinaku, 115.
maina, Hausa, 92.
mainema, Hausa, 92.
mainya, Hausa, 92.
mail, Nahuatl, 36.
maiya, Hausa, 92.
mak, Puyabi, 111.
mak, Tapachuceteco, 119.
maka, Arabic (Adirar), 111.
maka, Peul, 111.
makā, Uriya, 110.
makade, Nubian, 111.
makande, Wolof, 111.
makarā, Malinke, 93.
makāri, Arabic (Beran), 111.
mākhū, Hindustani, 111.
makkā, Hindustani, 110.
makka-jāri, Hindustani, 111.
makka-jawārī, Hindustani, 111.
makka-jonna, Telugu, 111.
makkanaši, Mandanaca, 115.
makkā's, Hindustani, 110.
makka-šōlam, Tamil, 111.
makkā zonnalu, Telugu, 111.
makkei, Punjabi, 110.
makkī, Punjabi, 111.
makkik, Arabic, 111.
makku, Persian, 111.

- makkuk*, Arabic, 111.
makuñzi, Nyamwezi, 17.
maktwilli, Nahuatl, 155.
maky, Puri, 115.
malādo, Peul, 92.
malakum, Arabic, 130.
male, Songay, 92.
malekdamba, Mosi, 130.
mali, Malinke, 91 f.
maltia, Nahuatl, 38.
mālu, Peul, 92.
m'amāt, Bedaaye, 15.
mambābu, Bola, 113.
mambāwo, Sarar, 113.
man, Zenaga, 91.
mandi, Malinke, 93.
mañga, Peul, 92.
mañgu, Peul, 92.
manhaabil, Maya, 91.
mani, Malinke, 91 ff.
mani, Zapotec, 97.
manifn, Bambara, 92.
maniq, Maya, 96.
maniwolo, Bambara, 92.
mankala, Bambara, 92.
mankalani, Bambara, 92.
maqām, Arabic, 22.
marīči, Carib, 115.
marigi, Malinke, 93.
marisi, Arawak, 115.
m-asa, Kimbundu, 109.
ma-sa, Kikongo, 109.
ma-saa, Kimbundu, 109.
masaki, Hausa, 92.
masali, Peul, 108.
masambala, Angola, 109.
masangu, Angola, 109.
masar, Songay, 109.
masara, Hausa, 109.
masami, Kanuri, 109, 111.
masašočotl, Nahuatl, 90.
masašokotl, Nahuatl, 91.
masela, Bilin, 109.
masikoh, Sabuya, 115.
masilla, Abyssinian, 109.
masimpoto, Kimbundu, 114.
māšire, Kurd, 108.
ma-sis, Yaka, 109.
maşrah, Turkish, 108.
maşriy, Arabic, 109.
māsūr, Persian, 108.
māšūr, Persian, 108.
māsūr, Turkish, 108.
māsūra, Persian, 108.
māšūra, Persian, 108.
māsūrah, Turkish, 108.
mau, Peul, 92.
mauba, Peul, 92.
maudo, Peul, 92.
maulai, Arabic, 91.
mauna, Peul, 92.
maundu, Peul, 92.
mauni, Peul, 92.
maza, Spanish, 108.
mazar, Spanish, 108.
mazari, Hausa, 108.
mazari, Hausa, 108.
mazǧīdat, Arabic, 1.
mazo, Spanish, 108.
mazorca, Spanish, 106 f.
mazorcador, Spanish, 108.
mazorra, Spanish, 108.
mazorral, Spanish, 108.
mazorro, Spanish, 108.
mazy, Canitana, 115.
mbala, Angola, 109.
mbara, Peul, 18.
meč, Kiche, 120.
meeš, Maya, 120.
megfal, Hassania Arabic, 96.
mekč, Zenaga, 101.
mekke-jōla, Kannada, 111.
melil, Kabyl, 92.
mēma, Peul, 30.
memba, Peul, 30.
mennaut, Mzab, 92.
mesegē, Mackeri, 118.
meškay, Maya, 120.
meškin, Maya, 120.
mfalme, Swahili, 18.
mfalume, Swahili, 18.
mfune, Nyamwezi, 17.
midarraḥ, Arabic, 108.
miǧzal, Arabic, 108.
miḥsaran, Arabic, 108.
miki, Nahuatl, 36.
mina, Bambara, 90.
mina, Nahuatl, 36.
minkalo, Bambara, 90.
missege, Nghala, 118.
mişriy, Arabic, 109.
mitl, Nahuatl, 36.
mo, Kekchi, 41 f.
mo, Kiche, 42.
mo-, Peul, 92.
moan, Maya, 42.
moanqin, Maya, 41.
modi, Peul, 92.
mo-fumi, Sesuto, 18.
mogho, Khasonke, 92.
mogo, Khasonke, 92.
moḥk, Sagula, 119.
moho, Khasonke, 93.
moḥo, Malinke, 93.
mok, Ayook, 118.
moko, Khasonke, 92.
mokūo, Olut, 119.
mol, Maya, 48.
mol, Pokonchi, 48.
moloa, Nahuatl, 48.
molb, Pokonchi, 48.
molli, Nahuatl, 48.
molo, Tzendal, 48.
moloni, Nahuatl, 42, 48.
molotl, Nahuatl, 41.
moloyan, Nahuatl, 48.
momoyawa, Nahuatl, 39.
moo, Maya, 42.
moots, Ayook, 48.
moputyu, Peul, 92.
morho, Khasonke, 92.
mori, Bambara, 92.
moš, Tzendal, 124.
mosidabara, Peul, 92.
mot, Ayook, 48.
moy, Kekchi, 41.
moyawa, Nahuatl, 39, 41.
moyollali, Nahuatl, 48.
moyoni, Nahuatl, 39.
mqr, Berber, 44.
mr'r, Berber, 44.
mşr, Arabic, 108.
mşrq, Arabic, 108.
mu, Kekchi, 41.
mueisiti, Cora, 120.
mugan, Bambara, 92.
muh, Ayook, 41.
muh, Pokonchi, 41.
muh, Uspanteca, 41.
muḥā, Malinke, 43.
muḥam, Pokonchi, 41.
muḥaš, Ayook, 41.
muhul, Pokonchi, 41.
mu-juñgo, Ronjera, 114.
muk, Maya, 36.

mukka, Rajputana, 11.
muknī, Kumaon, 110.
mūl, Arabic, 91.
mul, Huasteca, 48.
mul, Kekchi, 48.
mul, Maya, 48.
mul, Uspanteca, 41.
mūla, Arabic, 91.
mūlāti, Arabic, 91.
mūlāti, Berber, 93.
mule, Kekchi, 48.
mūl-elhagg, Shilha, 91.
mulku, Huasteca, 48.
mul-lahrās, Shilha, 91.
mulmulankil, Maya, 48.
muluk, Maya, 48.
mu-luñgu, Ronga, 114.
mumbāwo, Sarar, 114.
mun, Botiua, 92.
munfarag, Arabic, 72.
mungari, Garwhal, 110.
mun, Kabyl, 92.
mu-soro, Gurmana, 109.
mut, Ayook, 48.
muta, Zoque, 48.
mutam, Ayook, 48.
muyal, Maya, 41.
m-zugu, Quelimane, 114.

N

-*Na*, Kongo, 31.
na, Zoque, 39.
nabābo, Bidzogo, 113.
nahma, Mangué, 120.
nai, Peul, 30.
nakči, Yobarana, 115.
ñal, Peul, 146.
ñalande, Peul, 146.
nama, Mangué, 120.
nambāwo, Sarar, 113.
name, Mazateco, 120.
namir, Arabic, 137.
namirah, Arabic, 137.
-nana, Kongo, 31.
nana, Peul, 30.
nanda, Mazateco, 39.
nandelem, Koama, 30.
-nangana, Kongo, 31.
-nangika, Kongo, 31.
nāni, Bambara, 30.
nani, Mende, 31.

napatak, Cree, 14.
Napot šiu, Maya, 166.
nappantli šiu, Nahuatl, 166.
nawi, Nahuatl, 37.
nāyi, Peul, 30.
nda, Mende, 34.
ndādo, Mende, 34.
nd'aha, Peul, 26 f.
ndaḥa, Soninke, 26.
ndālō, Mende, 34.
ndāma, Mende, 34.
ndē, Mende, 31.
ndeḥa, Landoro, 117.
ndēla, Mende, 31.
ndēli, Mende, 30.
ndi, Mende, 35.
ndimi, Swahili, 31.
ndimu, Nyamwezi, 31.
nduhua, Mazateco, 39.
nduka, Peul, 26.
ne, Bambara, 30.
-ne, Bantu, 31.
ne, Mende, 30 f.
ne, Trique, 39.
-ñea, Swahili, 31.
nee, Trique, 39.
-nega, Nyamwezi, 31.
-ñega, Swahili, 31.
-neganega, Nyamwezi, 31.
nege, Bambara, 30.
-ñegi, Swahili, 31.
nehe, Mende, 30.
nehe, Brique, 39.
nekutik, Nahuatl, 102.
nekutli, Nahuatl, 102.
nekwilōa, Nahuatl, 154.
nekwiltonolli, Nahuatl, 155.
ñelauma, Peul, 146.
neloa, Nahuatl, 48.
nema, Hausa, 30.
nen, Nahuatl, 37.
nena, Peul, 30.
-nena, Shambala, 37.
-nena, Swahili, 31.
nendeka, Nyamwezi, 31.
nene, Bambara, 30.
nene, Mende, 30.
-neneka, Sesuto, 31.
nenepilli, Nahuatl, 37.
-nenepu, Nyamwezi, 31.
nenetl, Nahuatl, 37.
neni, Bambara, 30.

neni, Mende, 30.
nepo, Mende, 30.
neukamo, Narao, 115.
neyolewaloni, Nahuatl, 48.
ngō, Mende, 21.
ngōma, Mende, 21.
-ngqimba, Kafir, 19.
ngū, Mende, 21.
ngui, Mende, 21.
nguma, Mende, 21.
ngumao, Mende, 21.
ngumāū, Mende, 21.
ngūmba, Mende, 21.
ngū yēla, Mende, 21.
nhār, Arabic, 146.
nhunzi, Nyamwezi, 17.
ni, Bambara, 128.
nikirān, Arabic, 146.
nimbābu, Banyun, 113.
nisa, Zapotec, 40.
nitla kwapoloa, Nahuatl, 95.
nkome, Kongo, 20.
nkomwa, Kongo, 20.
nō, Zoque, 39.
nohol, Huasteca, 72.
nokpu, Tapachueteco, 119.
nomay, Maya, 82.
nōōhahi, Zoque, 39.
nōōkom, Zoque, 39.
-nqum, Kafir, 19.
-nqūma, Kafir, 19.
-nqumba, Kafir, 19.
-nqumbi, Kafir, 19.
ntioy, Wolof, 76.
ntioyelo, Wolof, 76.
ntubānyo, Biafada, 114.
nu, Gbese, 128.
numay, Maya, 82.
numul, Maya, 82.
numulbe, Maya, 82.
nun, Malinke, 82.
nun, Pima, 119.
nun, Soso, 128.
nuntā, Malinke, 82.
nūō, Sayula, 39.
nūōye, Oluta, 39.
nū-take, Chimila, 39.

O

Obābo, Banyun, 113.
oburoni, Tchi, 113.

očinaki, Apurai, 115.
ohinai, Mapayo, 115.
okki, Zenaga, 32.
oktli, Nahuatl, 102.
ol, Maya, 47.
olak, Maya, 47.
oli, Maya, 47.
olin, Nahuatl, 48.
olinia, Nahuatl, 48.
ollotl, Nahuatl, 48.
ololoa, Nahuatl, 48.
olotl, Nahuatl, 48.
oloni, Nahuatl, 48.
oltah, Maya, 47.
omon, Maya, 82.
onewani, Nahuatl, 82.
onok, Nahuatl, 82.
onotiu, Nahuatl, 82.
onowayan, Nahuatl, 82.
onoyan, Nahuatl, 82.
opoto, Timne, 113.
o purni, Gbe, 113.
ō puro, Kra, 113.
ō puruni, Gbe, 113.
Oselopočtli, Nahuatl, 73.
otābu, Landoma, 113.
otubāgo, Bidžogo, 113.
o-tuk, Kekchi, 146.
otuwāgbo, Bidžogo, 113.

P

Pa, Shoshone, 38.
paa, Comanche, 38.
pachiche, Chinook J., 8 f.
pači, Yupiltepeque, 119.
pae, Netela, 38.
pah, Shoshone, 38.
pah, Utah, 38.
pahar, Comanche, 38.
pāh-shish'-e-ooks, Chinook J., 8.
pak, Lepcha, 112.
-pakiawi, Nahuatl, 42.
pala, Huasteca, 94.
palab, Huasteca, 94.
palal, Huasteca, 94.
palan, Persian, 137.
palangīna, Persian, 137.
palani, Nahuatl, 145.
palačtli, Nahuatl, 138.
palel, Chinook J., 8.
pallam, Huasteca, 138.

papalani, Nahuatl, 138.
paplel, Chinook J., 8.
paseesie, Chinook J., 9.
pasee, Chinook J., 9.
pashaquar, Shoshone, 12.
pasheco, Shoshone, 12.
pashequa, Shoshone, 12.
pashequar marsh, English hybrid, 12.
pashhequar, Shoshone, 12.
pasheshiooks, Chinook J., 8.
pashishiooks, Chinook J., 8.
pashisheuks, Chinook J., 9.
pasisiuks, Chinook J., 9.
passheco, Shoshone, 12.
passhequo, Shoshone, 12.
passhico, Shoshone, 12.
pawoo, Peul, 18.
pek, Maya, 42.
pekčah, Maya, 42.
pekčak, Maya, 42.
pekčalak, Maya, 42.
peq, Maya, 42.
pegenpeq, Maya, 42.
pere, Vai, 29.
phot, Khmer, 112.
phu, Annamese, 112.
piak, Chinook J., 8.
piko, Huasteca, 42.
-pil, Nahuatl, 37.
pilkatiuh, Nahuatl, 37.
pilli, Nahuatl, 37.
piloa, Nahuatl, 37, 95.
pire, Chinook J., 8.
pita, Huasteca, 104.
pitolol in ok, Huasteca, 104.
po, Kekchi, 86.
-po, Nahuatl, 37.
poa, Nahuatl, 36, 86, 145.
poalli, Nahuatl, 35, 145.
poduno, Mampa, 113.
poh, Shoshone, 38.
poh, Tesuque, 38.
pol, Huasteca, 94.
-pol, Nahuatl, 94.
polaki, Nahuatl, 95.
polalie, Chinook J., 8.
poliwi, Nahuatl, 95.
polka, Huasteca, 94.
poloa, Nahuatl, 95.
pololol, Huasteca, 94.
poloni, Nahuatl, 95.
poŋoa, Nahuatl, 145.
porōto, Limba, 113.
portongedžo, Peul, 113.
portoo, Peul, 113.
Portuguez, Portuguese, 113.
potia, Nahuatl, 37.
potli, Nahuatl, 37.
potuno, Bulom, 113.
pu, Basa, 113.
pū, Gio, 113.
puh, Chinese, 112.
puk, Chinese, 112.
pulalie, Chinook J., 8.
pulič, Huasteca, 94.
pullab, Huasteca, 94.
pullik, Huasteca, 94.
pullikahib, Huasteca, 94.
pullikbel, Huasteca, 94.
pūma, Mende, 21.
pumad, Sarar, 109.
pumaidzi mumbawo, Sarar, 109.
punedo, Peul, 29.
pūra, Mosi, 46.
pura, Yula, 46.
pure, Kise, 46.
purni, Basa, 113.
pūru, Mano, 113.
purumō, Mende, 113.
purumō, Vai, 113.
purūmoi, Gbende, 113.
purumūe, Kono, 113.
put, Chinese, 112.

Q

Qaankal, Maya, 86.
qadim, Arabic, 44.
qafal, Arabic, 44, 96.
qafsa, Kabyl, 96.
qai, Hausa, 21.
qal, Bambara, 146.
qalab, Maya, 146.
qalabqin, Maya, 146.
q'alu, Kekchi, 146.
qam, Arabic, 22.
qamar, Arabic, 88.
qāmaraku, Arabic, 88.
qamira, Arabic, 88.
qan, Maya, 86.
qaš, Maya, 44.
qasal, Maya, 40.
qasil, Maya, 40.

qašth'an, Maya, 94.
qatun, Maya, 158.
qatuntah, Maya, 157.
qaum, Arabic, 21 f.
qaumah, Arabic, 21.
qawanua, Hausa, 21.
qawuna, Hausa, 21.
qayyām, Hausa, 21.
qimah, Arabic, 21.
qis, Maya, 40.
qmer, Hassania Arabic, 88.
gol, Kiche, 44.
qu, Maya, 71.
qumash, English ghostword, 12.
quarmash, English ghostword, 12.
qūm, Arabic, 21.
-quma, Kafir, 19.
-qumba, Kafir, 19.
quna, Maya, 71.
qwm, Arabic, 21 f.

R

Raba, Hausa, 30.
raba, Wolof, 28.
raba'a, Arabic, 30.
rabb, Zenaga, 28.
rabī, Arabic, 30.
rabi, Hausa, 30.
rah, Arabic (Egypt), 25.
rah, Rif, 25.
raha, Hausa, 26.
rāḥah, Arabic, 26.
rahwe, Tarahumar, 146.
rama, Arabic, 28.
ramḥ, Arabic, 28.
rami, Arabic, 28.
rana, Hausa, 146.
raraba, Hausa, 30.
raš, Pokonchi, 75.
reuba, Wolof, 28.
rewegači, Tarahumar, 50.
risa, Angola, 109.
rismalči, Pokoman, 116.
roca, Portuguese, 108.
rocca, Italian, 108.
roccho, O. H. German, 108.
rōuh, Siwa, 25.
rrami, Tashelhit, 28.
rrāmi, Shilha, 28.

ruah, Rif, 25.
rueca, Spanish, 108.
rūḥ, Arabic (Egypt), 25.
ruka, Peul, 26.
-ruma, Sesuto, 28.
rumḥ, Arabic, 28.
ruqqah, Arabic, 108.

S

Sa, Bambara, 74.
sā, Bambara, 74.
sa, Kekchi, 40.
sā, Malinke, 66, 116.
sa, Teke, 109.
sa, Zapotec, 40.
sā'ah, Arabic, 74, 116.
saar, Coptic, 117.
šaarel, Pokonchi, 40.
sa'areta, Egyptian, 117.
saba, Malinke, 30.
saba, Mosi, 100.
sāba, Mosi, 99.
saba'a, Arabic, 20.
šabr, Arabic, 99.
sābre, Mosi, 99.
safa, Wolof, 79.
saḡar, Arabic, 79.
safara, Arabic, 79.
safara, Wolof, 79.
safīr, Arabic, 79.
šaguer, Bilin, 118.
saḡā, Soso, 30.
saḡe, Soso, 74, 117.
šaḡḡ, Kabyl, 151.
šaḡḡa, Arabic, 151.
šaḡḡeit, Kabyl, 151.
šaḡḡi, Kabyl, 151.
šaḡḡh, Arabic, 151.
šaḡḡu, Shilha, 151.
saīn, Malinke, 74, 116.
sā'ir, Arabic, 116.
sair, Kabyl, 118.
saḡe, Hausa, 118.
sakaba, Arabic, 59.
sakb, Arabic, 59.
sākib, Arabic, 59.
sakka, Dyalonke, 30.
šala, Arabic, 90.
salāt, Arabic, 90.
sali, Bambara, 90.
salikalo, Bambara, 90.
salikaru, Malinke, 90.
šāma, Arabic, 96.
sama', Arabic, 66.
sama, Mende, 22.
samal šiam, Mam, 116.
šaman, Maya, 72, 103.
samanya, Malinke, 66.
samawi, Arabic, 71.
sāmba, Mende, 21.
sambebe, Mende, 21.
sāmbō, Mende, 21.
-sandatu, Bantu, 30.
saplel, Chinook J., 8.
saplil, Yalima, 7.
sapo, Peul, 20.
sapolil, Chinook J., 7.
sapolill, Chinook J., 8.
saḡara, Arabic, 78.
šaqq, Arabic, 79.
saḡur, Arabic, 78.
šā'r, Arabic, 117.
šar, Berber, 117.
sar, Babyl, 118.
sarbu, Khasonke, 101.
sari, Hausa, 118.
šārtu, Assyrian, 117.
sasa, Bambara, 74, 116.
sasā, Malinke, 74, 116.
sasan, Bambara, 116.
-satu, Bantu, 30.
šauk, Arabic, 100.
šaukah, Arabic, 100.
šaum, Arabic, 96.
saugar, Arabic, 78.
sawa, Dyula, 30.
sāwa, Mende, 30.
sawā, Nahuatl, 96.
šawwāl, Arabic, 90.
seapoh, Chinook J., 7.
seapult, Chinook J., 7.
sēba, Kunama, 20.
sebele, Bambara, 100.
sebere, Khasonke, 100.
sebere, Malinke, 100.
sebre, Khasonke, 100.
securis, Latin, 78.
sege, Soso, 78.
sekke, Soninke, 117.
sekuria, Aramaic, 78.
šel, Maya, 79.
selei, Bagirmi, 108.
šeliwi, Nahuatl, 79.

- sembe*, Mende, 22.
seme, Mende, 22.
semlil, Kabyl, 92.
sempakka, Nahuatl, 40.
sempoalli, Nahuatl, 36, 145.
sempolli, Nahuatl, 36.
senene, Sesuto, 37.
sentlamia, Nahuatl, 40.
sentli, Nahuatl, 119.
serb, Egyptian, 99.
serbeni, Coptic, 99.
šerem, Pokonchi, 79.
sertits, Cocoma, 119.
šet, Maya, 79.
shapolel, Chinook J., 7.
šhēh, Shilha, 151.
šhiāh, Shilha, 151.
šhih, Shilha, 151.
ship, Chinook J., 8.
shipbread, English, 8.
ši, Arabic, 117.
si, Malinke, 74, 116 ff.
ši, Pokonchi, 79.
si, Rama, 39.
siba, Bambara, 118.
siba, Malinke, 117.
si bo, Malinke, 117.
šičam, Tzotzil, 127.
sigē, Malinke, 74, 116.
sigi, Bambara, 117.
sigi, Dyula, 118.
siginte, Soninke, 27.
sihi, Malinke, 118.
šihhat, Arabic, 151.
šii, Maya, 116, 119.
šiił, Aguacateca, 116.
šiii, Maya, 77, 79.
šik, Maya, 79.
sikoroma, Vai, 44.
šil, Mam, 116, 119.
šil, Maya, 116, 119.
silā, Malinke, 117.
šilaq, Pokonchi, 79.
šilotl, Nahuatl, 119.
šilotsontli, Nahuatl, 119.
šim, Maya, 119.
sima, Malinke, 117.
šima, Nahuatl, 116, 119.
simezgidiun, Berber, 1.
sin, Malinke, 118.
sin, Maya, 81.
sinan, Maya, 81.
sintan, Malinke, 118.
sintli, Nahuatl, 119.
šipatli, Nahuatl, 115, 118.
šipe, Nahuatl, 116.
šipewa, Nahuatl, 116, 118.
sir, Malinke, 118.
sira, Bambara, 117.
sira, Hausa, 117.
sira, Kabyl, 116, 118.
širah, Arabic, 116, 118.
sira fana, Bambara, 117.
sira mine, Bambara, 117.
siramineba, Bambara, 117.
sire saplel, Chinook J., 8.
siri, Hausa, 117.
širi, Hausa, 117.
sirt, Shawiah, 116.
sisā, Malinke, 74, 116.
sisan, Bambara, 74, 116.
sisannino, Bambara, 74, 116.
sise, Malinke, 75.
šišiyuhtla, Nahuatl, 75.
šit, Maya, 77.
šit', Maya, 78.
sitati, Cora, 119.
sitla-šonekwilli, Nahuatl, 154.
šiu, Maya, 75, 78, 118.
šiu, Nahuatl, 75.
šiuhyotia, 75.
siwatlan, Nahuatl, 72.
šiwitl, Nahuatl, 75, 77, 118.
šmatsi, Aguacateca, 116.
sō, Malinke, 100.
so, Nahuatl, 135.
soa, Nahuatl, 135.
soberere, Peul, 100.
sobore, Khasonke, 100.
šočilia, Nahuatl, 76.
šočitl, Nahuatl, 76.
šočiwia, Nahuatl, 76.
sogo, Khasonke, 100.
sogoma, Bambara, 100.
soho, Khasonke, 100.
soho, Malinke, 100.
sokke, Soninke, 74.
soko, Khasonke, 100.
šokotl, Nahuatl, 75.
šokoya, Nahuatl, 135.
solli, Nahuatl, 135.
solu, Dyalonke, 143.
solu, Mande, 33.
-soma, Sesuto, 19.
sombo, Mende, 21.
-some, Sesuto, 19.
-šome, Sesuto, 19.
-šomi, Sesuto, 19.
-šomo, Sesuto, 19.
šonekwillāškalli, Nahuatl, 154.
šonekwilli, Nahuatl, 154.
šonokitl, Nahuatl, 154.
šopalewak, Nahuatl, 75.
šopan, Nahuatl, 75.
sopandiku, Wolof, 79.
sorho, Khasonke, 100.
soso, Nahuatl, 135.
šošoukhi, Nahuatl, 75.
šošowitl, Nahuatl, 76.
šošuia, Nahuatl, 76.
šot, Maya, 77, 79.
šot', Maya, 77.
šotl, Nahuatl, 154.
šotla, Nahuatl, 76 f.
šotlak, Nahuatl, 77.
šotlaka, Nahuatl, 76.
sowa, Nahuatl, 135.
spur, English, 100.
šr, Hebrew, 117.
ššahha, Shilha, 151.
-ssanga, Nyamwezi, 33.
-ssangana, Nyamwezi, 33.
-ssangizya, Nyamwezi, 33.
sseapoox, Nootka, 7.
sua, Bambara, 100.
suba, Bambara, 99.
subaša, Malinke, 99.
subaka, Peul, 100.
subaya, Bambara, 99.
subh, Arabic, 100.
subu, Malinke, 100.
sugu, Malinke, 100.
sukunde, Peul, 118.
sulli, Nahuatl, 135.
sulusi, Hausa, 30.
sulusu, Peul, 30.
suma, Malinke, 66.
-suma, Nyamwezi, 28.
-sumela, Sesuto, 19.
sunkalo, Bambara, 96.
sunu, Tarahumar, 119.
sunut, Opata, 119.
šunut, Opata, 119.
šünüt, Opata, 119.
suqin, Maya, 96.
šugqar, Berber, 78.

suri, Coptic, 99.
sus, Bantu, 75.

T

Ta, Bambara, 25, 80.
-ia, Bantu, 27, 30.
ta, Mande, 32.
tā, Mande, 32.
taa, Cahita, 146.
taai, Papago, 146.
tab, Somali, 31.
taba, Wiskinasht, 146.
taba-puts, Chemeque, 146.
taban, Afar, 31.
tabe, Shoshone, 146.
t'addel, Shilha, 27.
tafo, Hausa, 26.
tag, Somali, 25.
-taga, Nyamwezi, 26.
taga, Peul, 32.
-tagaa, Swahili, 26.
tagademte, Siwa, 44.
-tagala, Nyamwezi, 26.
-tagamba, Nyamwezi, 26.
-tagana, Nyamwezi, 26.
tagar, Soho, 118.
taggar, Berber, 1.
-tagila, Nyamwezi, 26.
tagimt, Mzab, 32, 143.
tagire, Malinke, 2.
tagwa, Hausa, 59, 61.
tagwaye, Hausa, 61.
tagwur, Abyssinian, 117.
tah, Maya, 51.
tah, Pima, 146.
tah, Wargla, 25.
taha, Malinke, 25.
tahap, Ayook, 41.
tahapa, Zoque, 41.
tahapoa, Cora, 50.
tah arp, Comanche, 146.
tahauh, Ayook, 41.
tahi, Hausa, 26.
taho, Hausa, 26.
tahoma, Malinke, 25.
tahuy, Huasteca, 46.
tahwe, Tarahumar, 146.
tai, Tepehuan, 146.
tait, Cora, 146.
-taka, Kongo, 26.
-takala, Kongo, 26.

takama, Hausa, 26.
takaypa, Zoque, 41.
tak'erzoŋ, Tashelhit, 46.
takla, Hindustani, 108.
takua, Hindustani, 108.
-takula, Kongo, 26.
takwa, Hindustani, 108.
-tala, Sesuto, 34.
talal, Bedauey, 107.
talal, Wolof, 34.
-talelo, Sesuto, 34.
tam, Ayook, 41.
tam, Huasteca, 41.
tam, Mande, 32.
tam, Maya, 41.
ṭama', Arabic, 28.
tama, Bambara, 25.
tama, Huasteca, 41.
-tama, Kongo, 26.
tama, Malinke, 27 ff.
tama, Mande, 36.
tāma, Mende, 28.
-tama, Nyamwezi, 26, 28.
tama, Shambala, 28.
-tamaa, Shambala, 28.
tamači, Papago, 50.
tamaha, Hausa, 28.
tamaho, Peul, 28.
tamaka, Hausa, 26.
-tamala, Shambala, 28.
tamam, Saho, 31.
taman, Nandi, 31.
tamande, Peul, 32.
tamara, Vai, 28.
-tamba, Kafir, 26.
-tamba, Kongo, 26 f.
tamba, Malinke, 28.
-tamba, Nyamwezi, 26.
tamba, Peul, 32.
tamba, Songay, 26.
-tamba, Swahili, 26.
-tambalala, Nyamwezi, 26.
tambāna, Peul, 32.
tambē, Mende, 28.
tambō, Mende, 26.
-tambo, Swahili, 26.
-tambuka, Nyamwezi, 26.
-tambya, Nyamkezi, 26.
tamde, Peul, 32.
tamezgida, Berber, 1.
-tamila, Nyamwezi, 28.
tamin, Bedauey, 31.

Tamioyan ičani, Nahuatl, 40.
tamit, Cahita, 146.
tamma, Hausa, 28, 32.
ṭamma', Kabyl, 28.
tamma, Peul, 36.
tamman, Saho, 31.
tammāt, Hausa, 36.
-tamo, Kafir, 28.
-tamola, Sesuto, 26.
Tamowan ičan, Nahuatl, 40.
tamun, Bedauey, 31.
tamre, Peul, 32.
tañ, Nubian, 25.
tan, Vai, 27.
-tanda, Swahili, 27.
-tandatu, Bantu, 30.
tande, Kono, 27.
tande, Vai, 27.
-tanga, Swahili, 26, 33.
-tangaa, Swahili, 26.
-tangañika, Nyamwezi, 33.
tangomão, Portuguese, 25.
tanmbe, Soso, 28.
tannie, Hausa, 32.
-tanta, Kongo, 27.
-tanu, Bantu, 33.
tap, Utan, 146.
tapayagues, Pipil (at Izalco), 40.
tapayawit, Pipil, 40.
taqdim, Arabic, 44.
taqqamarahu, Arabic, 88.
ṭar, Arabic, 118.
tara, Hausa, 32, 143.
tara, Peul, 32.
tara, Vai, 32.
tarahu, Arabic, 25.
taraka, Arabic, 2.
tare, Hausa, 32.
tare, Peul, 32.
tarḡamān, Arabic, 25.
tarha, Dyula, 25.
tarhama, Dyula, 25.
tari, Hausa, 32, 143.
tarie, Hausa, 32.
ta'rīm, Arabic, 143.
tarku, Sanskrit, 107 f.
taro, Hausa, 32.
farrem, Shawiah, 32, 143.
tarsa, Hausa, 32.
tartar, Saho, 107.
taru, Hausa, 143.

- taruka*, Kabyl, 107.
taš, Pima, 146.
tašaqurt, Berber, 78.
tasuma, Malinke, 80.
tat, Opata, 146.
tāti, Peul, 30.
tāto, Peul, 30.
-tatu, Bantu, 30.
t'auan, Berber, 32.
tauh, Nahuatl, 39, 41.
t'au, Kabyl, 32.
taw, Wolof, 62.
tawah, Rif, 25.
tawayeebe, Peul, 61.
tawayeen, Peul, 61.
tāwi, Shilha, 32.
tay, Nubian, 25.
taya, Hausa, 32.
taya, Peul, 32.
ṭayar, Arabic, 1.
tayin, Nubian, 25.
te, Malinke, 78.
ṭe, Malinke, 151.
teb, Sarar, 62.
teg, Somali, 25.
tege, Bambara, 78.
tegeba, Bambara, 78.
tegela, Malinke, 78.
tegeḷi, Malinke, 78.
tegere, Bambara, 2.
tegir, Kabyl, 1.
tegmueka, Tuba, 50.
teh, Malinke, 78.
tehaš, Zenaga, 75.
teka, Cahita, 50.
teka, Nahuatl, 50, 146.
tekala, Bambara, 151.
tekgeremā, Ashante, 30.
teki, Nahuatl, 79, 146.
tekpan, Nahuatl, 146.
tekpanir, Nahuatl, 146.
tekpātḷ, Nahuatl, 54, 79.
tekrema, Ashante, 30.
teksistli, Nahuatl, 54, 66.
tel, Huasteca, 90.
telam, Kanuri, 30.
tele, Bambara, 27.
telegonte, Soninke, 27, 79.
telenda, Bambara, 27.
telene, Malinke, 27.
teli, Malinke, 78.
telindin, Malinke, 27.
tem, Ayook, 41.
tem, Kekchi, 41.
tem, Uspanteca, 41.
tema, Nahuatl, 38.
temasia, Nahuatl, 40.
temaskalli, Nahuatl, 38.
temba, Mende, 28.
temdint, Berber, 1.
teme, Mande, 36.
temi, Nahuatl, 36.
temiki, Nahuatl, 36.
temem, Bedauey, 31.
temo, Nahuatl, 40 f.
temoa, Nahuatl, 41.
Temoanč'an, Nahuatl, 40.
temowia, Nahuatl, 40.
temoyan, Nahuatl, 40.
temoyawani, Nahuatl, 40.
ṭen, Bambara, 151.
ten, Huasteca, 90.
ten, Vai, 27.
ṭeña, Bambara, 151.
tenekbič'in, Huasteca, 90.
tenḥen, Soso, 27.
ṭeñi, Bambara, 151.
tentli, Nahuatl, 136.
tepatat, Montagnais, 14.
tepillokwawitl, Nahuatl, 95.
tepilolani, Nahuatl, 95.
tepilolli, Nahuatl, 95.
tepulli, Nahuatl, 95.
terango, Mandingo, 78.
terdiča, Mohave, 119.
terdiš, Cuchan, 119.
terene, Malinke, 127.
teskatl, Nahuatl, 70.
tesotli, Nahuatl, 75.
teteč ninopiloa, Nahuatl, 37.
tewegači, Tarahumar, 50.
tewika, Eudeve, 50.
tewikak, Opata, 50.
tewilatsi, Opata, 50.
ṭeya, Bambara, 151.
teyolia, Nahuatl, 47.
thagera, Bougie, 1.
thaguri, Kabyl, 1.
thālith, Hassania Arabic, 30.
-thama, Sesuto, 28.
-thamatlamisa, Sesuto, 28.
-thamo, Sesuto, 28.
thamr'er, Kabyl, 44.
-thandabuza, Zulu, 27.
tharuka, Kabyl, 107.
thege, Kabyl, 1.
themdint, Berber, 1.
thigri, Bougie, 1.
thimd'inin, Berber, 1.
thlatha, Hassania Arabic, 30.
thōleth, Hassania Arabic, 30.
thukerdha, Kabyl, 1.
-thuma, Sesuto, 28.
-thumolo, Sesuto, 28.
ti, Bambara, 78, 117.
ṭi, Bambara, 78, 117.
ti, Guatuso, 39.
tiaeḃ, Huasteca, 42.
tiba, Bambara, 79.
tibābu, Mandingo, 113.
ṭievali, Wolof, 75.
tigare, Khasonke, 2.
tige, Dyula, 79.
tigera, Zenaga, 1.
tijela, Bambara, 78.
tijele, Bambara, 78.
tike, Bambara, 78.
tikeba, Bambara, 78.
tikela, Bambara, 78.
tila, Bambara, 79.
tilin, Malinke, 27.
tillcup, Chinook J., 8.
tilli, Hausa, 33.
tim, Nubian, 31.
tima, Peul, 36.
timēbu, Nubian, 31.
timo, Peul, 36.
timme, Nubian, 31.
tiñe, Bambara, 151.
tinḥin, Soso, 27.
ṭir, Arabic, 118.
tisihčakwa, Tarascan, 116.
tisimekwa, Tarascan, 115.
tisime, Tarascan, 115.
tisirukwa, Tarascan, 116.
tisitisiras, Tarascan, 115.
tiṭawaka, Pima, 50.
tiwela, Bambara, 75.
thellem, Hassania Arabic, 30.
tklem, Hassania Arabic, 30.
ṭkop, Chinook J., 8.
tlakemitl, Nahuatl, 127.
tlakotonani, Nahuatl, 157.
tlakoyan, Nahuatl, 46.
tlakoyawa, Nahuatl, 46.
tlakoyonia, Nahuatl, 46.

- tlakoyonilli*, Nahuatl, 46.
tlakoyotli, Nahuatl, 46.
tlalatl, Nahuatl, 48.
tlalli, Nahuatl, 48.
tlaloa, Nahuatl, 48.
Tlalok, Nahuatl, 48.
tlamama, Nahuatl, 36.
tlami, Nahuatl, 36.
tlamik, Nahuatl, 35 f.
tlamini, Nahuatl, 36.
tlamintli, Nahuatl, 36.
tlamoyauhili, Nahuatl, 39.
-tlangano, Kafir, 33.
-tlangine, Kafir, 33.
tlaolli, Nahuatl, 48.
tlapakiawi, Nahuatl, 40.
tlapayawi, Nahuatl, 40, 43.
tlasa, Nahuatl, 40.
tlasolli, Nahuatl, 135.
tlasotl, Nahuatl, 135.
tlasotla, Nahuatl, 77.
tlasotli, Nahuatl, 135.
tlasulli, Nahuatl, 135.
tlata, Arabic, 30.
tlatla koampol, Nahuatl, 94.
tlatokaikpalli, Nahuatl, 146.
tlatokayotl, Nahuatl, 146.
tlatoki, Nahuatl, 146.
tlatototkli, Nahuatl, 41.
tlatoyawalli, Nahuatl, 39.
tlawawanalistli, Nahuatl, 138.
tlayolli, Nahuatl, 47.
tlayulli, Nahuatl, 47.
to, Bambara, 33, 143.
to, Malinke, 144.
toba, Peul, 62.
toban, Somali, 31.
tobere, Peul, 62.
toberinde, Peul, 62.
tobi, Peul, 62.
tobri, Peul, 62.
togo, Bambara, 144.
tōgo, Soso, 32.
togumbona, Shoshone, 50.
toh, Uspanteca, 41.
Tohil, Kiche, 41.
tohkan, Ayook, 41.
tōhkau, Ayook, 41.
tohken, Ayook, 41.
tohlah, Maya, 41.
toho, Malinke, 144.
tohoh, Cakchiquel, 41.
tohol, Maya, 41.
toholbe, Maya, 41.
tohoma, Malinke, 80, 144.
tohpal, Maya, 41.
tok, Ayook, 41, 146.
tok, Maya, 54.
toka, Nahuatl, 146.
tokaail, Nahuatl, 146.
tokapotli, Nahuatl, 146.
tokat, Huasteca, 146.
tokob, Huasteca, 41.
tokora, Peul, 144.
toktia, Nahuatl, 146.
tolde, Peul, 33.
tolli, Songay, 62.
tomey, Songay, 62.
tommon, Turkema, 31.
-tomoa, Swahili, 28.
tomon, Latuka, 31.
tomon, Masai, 31.
ton, Songay, 143.
ton, Vai, 143.
tona, Nahuatl, 146, 155.
Tonakatekutili, Nahuatl, 155.
tonakati, Nahuatl, 155.
tonakayotl, Nahuatl, 155.
tonalamatl, Nahuatl, 147.
tonaleke, Nahuatl, 135.
tonalli, Nahuatl, 146.
tonatiuh, Nahuatl, 146.
tondi, Malinke, 62.
toni, Bambara, 62.
tonko, Aymara, 115.
tonkun, Bambara, 33.
tonton, Songay, 143.
tonwot, Utah, 50.
too, Ayook, 41.
toradžo, Peul, 113.
tore, Peul, 113.
torquere, Latin, 107.
totoka, Nahuatl, 41, 146.
totoyaka, Nahuatl, 41.
tou, Ayook, 41.
touh, Ayook, 41.
toyawa, Nahuatl, 39.
toyawi, Nahuatl, 39.
toyawilia, Nahuatl, 39.
toyolia, Nahuatl, 47.
toyollo, Nahuatl, 47.
trah, Rif, 25.
truah, Rif, 25.
tsabel, Huasteca, 135.
tsabellom, Huasteca, 135.
tsako, Malagassy, 114.
tsam, Huasteca, 66.
tsammek, Huasteca, 127.
tsap, Ayook, 42.
tsapelil, Chinook, 7.
tsapinia, Nahuatl, 100.
tsapinilokayotl, Nahuatl, 100.
tsaptli, Nahuatl, 100.
tsari, Hausa, 118.
tsegia, Hausa, 118.
tsem tuhuh, Huasteca, 127.
tsemel, Huasteca, 127.
tsere, Hausa, 118.
tsero, Hausa, 118.
tsi, Ayook, 38.
tsihim, Huasteca, 101.
tsiim, Huasteca, 101.
tsiip, Ayook, 38.
tsik, Huasteca, 100.
tsikaš, Huasteca, 101.
tsim, Huasteca, 101.
tsiman, Huasteca, 101.
tsin, Ayook, 38.
tsingba, Zoque, 38.
tsira, Hausa, 118.
tsire, Hausa, 118.
tsirka, Hausa, 2.
tsiwakil, Nahuatl, 118.
tsob, Kiche, 146.
tsobel, Huasteca, 135.
tsobesa, Huasteca, 99.
tsobüš, Huasteca, 99.
tsobna, Huasteca, 99.
tsobnal, Huasteca, 99, 135.
tsobnaš, Huasteca, 99.
tsokoy, Zoque, 45.
tsokomen, Zoque, 45.
tsokovin, Zoque, 45.
tsol, Maya, 135.
tsolante, Maya, 135.
tsolatla, Nahuatl, 135.
tsolelom inik, Huasteca, 135.
tsolents, Huasteca, 135.
tsomitl, Nahuatl, 116.
tsontli, Nahuatl, 116.
tsoots, Maya, 116.
tsopa, Nahuatl, 100.
tsopelia, Nahuatl, 100.
tsopilotl, Nahuatl, 100.
tsopinia, Nahuatl, 100.
tsoponia, Nahuatl, 100.

tsoro, Hausa, 118.
tsots, Maya, 116.
tsotsonyo, Nahuatl, 116.
tsub, Kekchi, 146.
tsub, Kiche, 146.
tsubi, Huasteca, 99.
tsubis, Huasteca, 99.
ts'uhmal, Pokonchi, 116.
ts'uhum, Pokonchi, 116.
tsuk, Ixil, 116.
tsuk, Maya, 144, 150.
tsukel, Maya, 144.
ts'um, Kekchi, 116.
tsuntli, Nahuatl, 116.
tsupa, Nahuatl, 100.
tsuro, Bornu, 146.
tsuwika, Pima, 50.
-tu, Kafir, 34.
tu, Maya, 144.
tua, Bambara, 143.
-tua, Swahili, 34.
tuama, Bambara, 144.
-tuana, Swahili, 34.
tub, Kekchi, 146 f.
tuba, Kiche, 146.
tubāb, Wolof, 113.
tubāb-nyo, Mandingo, 113.
tubagwe, Tepehuan, 50.
tubam, Pokonchi, 146.
tubānyo, Padžade, 114.
tubaq, Peul, 113.
-tueša, Swahili, 35.
tugu, Bambara, 35, 143.
tugu, Dyula, 143.
tugu, Malinke, 33, 143.
tugun, Malinke, 33, 143.
tugwa, Hausa, 59.
tugwaye, Hausa, 61.
tuh, Zoque, 41.
tuhb, Pokonchi, 147.
tuhbal, Pokonchi, 146.
tuhub, Huasteca, 147.
tuk, Kekchi, 146.
tuk, Maya, 144.
tuk, Pokonchi, 146.
tuka, Peul, 2.
tukaamuk, Maya, 144.
tukaaten, Maya, 144.
tukimt, Berber, 16.
tukkimt, Shilha, 16.
tukorki, Peul, 2.
tukub, Maya, 144.

tukubitš, Serrano, 50.
tukupan, Gabrielino, 50.
tukwaš, Agua Caliente, 50.
-tula, Kafir, 34.
-tula, Kongo, 34.
-tūla, Nyamwezi, 34.
tulde, Peul, 33.
tule, Soso, 62.
-tulia, Swahili, 34.
tulli, Hausa, 33.
-tulu, Kafir, 35.
-tulu, Kongo, 34.
tululu, Hausa, 33.
tumba, Soso, 28.
tumbe, Soso, 28.
tun, Bambara, 33, 143, 171.
tun, Malinke, 33.
tun, Maya, 32, 135, 147, 155.
tune, Soso, 62.
-tunga, Nyamwezi, 33.
-tunga, Swahili, 33.
-tungo, Kongo, 33.
-tungo, Swahili, 33.
tuntigi, Bambara, 143.
tuntigi, Khasonke, 156.
tuntigo, Khasonke, 156.
tūra, Nupe, 113.
turanči, Hausa, 113.
turawa, Hausa, 113.
turawa, Kandin, 113.
ture, Hausa, 113.
ture, Peul, 113.
ture, Wolof, 143.
ṭuriy, Arabic, 113.

U

U, Maya, 86.
ua, Araucanian, 115.
ubatim, Tupi, 115.
ud, Zenaga, 47.
uduli, Kafir, 35.
ug, Chol, 86.
ugbado, Oloma, 111.
ugh, Subinha, 86.
uki, Zoque, 101.
uk'im, Tzutuhil, 127.
ul, Ixil, 47.
ul, Kabyl, 47.
ul, Kekchi, 47.
ul, Maya, 47.
ulel, Kekchi, 47.

ulelq, Kekchi, 47.
uleu, Kiche, 48.
uli, Malinke, 48.
ulimi, Swahili, 31.
ulu, Bambara, 47.
ulul, Kekchi, 47.
ulul, Uspanteca, 47.
-uma, Kongo, 22.
-unga, Swahili, 33.
-ungi, Swahili, 33.
-ungo, Swahili, 33.
un-zuṅgu, Fipa, 114.
uo, Maya, 87.
ur, Rif, 47.
ūr, Somali, 47.
'urmah, Arabic, 32, 143.
Usilopočtli, Nahuatl, 73.
usimal, Uspanteca, 116.
usumal vi, Cakchiquel, 116.
usmači, Cakchiquel, 116.
uzna, Gbari, 27.

V

Vasmači, Pupuluca, 116.
vat, Eudeve, 38.
vaza, Malagassy, 114.
vazaha, Malagassy, 114.
va-zuku, Quelemane, 114.
va-zungu, Fipa, 114.
ve, Mende, 145.
vera, Wolof, 88.
vere, Kpele, 29.
vere, Wolof, 88.
-vili, Nyamwezi, 29.
vonteweka, Joba, 25.
-vu, Nika, 18.
-vuna, Nyamwezi, 33.
-vuvu, Nika, 18.
-vwa, Kongo, 19.
-vwana, Kongo, 19.

W

Wapato, Indian, 13.
wappato, Indian, 14.
wapto, Indian, 13.
wara, Peul, 18.
wāseli, Kanuri, 113.
wāsili, Bagirmi, 113.
wāsili, Doai, 113.
wāsili, Kanuri, 113.

wat, Opata, 38.
wawana, Nahuatl, 138.
wawantli, Nahuatl, 138.
wayeb, Maya, 155.
weč, Maya, 124.
weči, Zapotec, 119.
wepolli, Nahuatl, 95.
wewepol, Nahuatl, 94.
whapto, Indian, 14.
wiči, Zapotec, 116, 119.
wiki, Nahuatl, 49.
-wingi, Swahili, 33.
-wili, Swahili, 29.
Witsilopočtli, Nahuatl, 73.
witsim, Huasteca, 119.
witsnawa, Nahuatl, 73.
witstlan, Nahuatl, 73.
witstli, Nahuatl, 119.
wō, Mende, 21.
wolo, Bambara, 47.
worawora, Bambara, 47, 59, 102.
wōrō, Bambara, 47.
woroworo, Dyula, 102.
wū, Mende, 21.
wūi, Mende, 21.
wulu, Malinke, 47.
wuluguma, Luganda, 16.
wūma, Mende, 21.
wūmāwo, Mende, 21.
wūmba, Mende, 21.
wūmbu, Mende, 21.
-wunga, Kongo, 33.
-wungula, Kongo, 33.

Y

-*Ya*, Bantu, 27.

ya, Kekchi, 38.
-ya, Kongo, 31.
yaa, Cakchiquel, 38.
yaabel, Maya, 38.
yaabil, Maya, 91.
yaal, Kekchi, 38.
yaal, Maya, 38.
yaaš, Maya, 75.
yablil, Maya, 38.
yaha, Peul, 26, 80.
yahande, Peul, 27.
yakana, Nahuatl, 83.
yakatl, Nahuatl, 83.
yala, Malinke, 27.
yaotl, Nahuatl, 39.
yaotla, Nahuatl, 39.
yaoyotl, Nahuatl, 39.
yare, Peul, 80.
yaš, Maya, 75.
yasil, Maya, 75.
yasiltun, Maya, 75.
yasni, Huasteca, 75.
yasusul, Huasteca, 75.
yauh, Nahuatl, 39.
yautl, Nahuatl, 39.
yava-nala, Sanskrit, 110.
-yenda, Bantu, 27.
yihin, Siwa, 25.
yila, Peul, 27.
yin raha, Hausa, 26.
yira, Guamaca, 39.
yoam, Kekchi, 47.
yoan, Kekchi, 47.
yobu, Wolof, 32.
yol, Ixil, 47.
yol, Maya, 47.

yol, Uspanteca, 47.
yolaq, Kekchi, 47.
yoli, Nahuatl, 47.
yolik wač, Pokonchi, 47.
yollo, Nahuatl, 47.
yollotli, Nahuatl, 47.
yolyol, Kekchi, 47.
yonne, Wolof, 82.
yontere, Peul, 82.
yontude, Peul, 82.
yonla, Peul, 82.
yoyo, Kekchi, 47.
yul, Ixil, 47.
yuli, Nahuatl, 47.
yuš, Chol, 75.

Z

Za, Gbari, 27.
za, Nupe, 27.
zaburro, Portuguese, 106 f.
zaka, Hausa, 26.
zale, Hausa, 108.
zalei, Kandin, 108.
zan, Nupe, 27.
zarre, Hausa, 108.
zarri, Hausa, 108.
zauğ, Arabic, 29.
zaza, Gbari, 27.
zaza, Nupe, 27.
zilima, Mosi, 30.
zilimde, Mosi, 30.
zola, Kafir, 35.
-zole, Kafir, 35.
žuđan, Zenaga, 30.
žuž, Shilha, 30.

SUBJECT INDEX

A

Ad-Damiri, 53, 80, 86, 101.

Ahau, of the Mayan chronicles, 149 ff.; —, not recorded elsewhere, 151; —, its etymology, 151 f.; —, in Landa, 153; —, his confusion, 159; —, its absurd origin after 1536, 166; —, in the chronicles, useless, 170.

Ah Napot Šiu, his death, in Cogolludo, 160 ff.: —, in Nahuatl, *Nappantli Šiu*, "four years," 166.

Ahpulhab, death of, in Mayan chronicles, 150 f.; —, and native calendar, 160; —, came to an end in 1536, 166; —, "the year bearer," 166; —, and Morley and Spinden's correlation, 167.

Aquarius, and heavy rain, in Mande, 59; —, and water jar in Egypt, 59; —, as Arabic *sāhib*, 59; —, leading to "heavy rain" in Western Sudan and to Nahuatl *čakwani* "to get wet," 59 (cf. p. 51); —, in Western Sudan gives way to Gemini, 61. See Gemini, Two.

Arabic cultural elements: Arabic, finger language creating "ten" conception in Africa, 15; —, traders dislodging tribes and causing Bantu migration, 16; —, influence weakest among Semi-Bantus, 20; —, finger language and "ten" in Peul and Kunama, 20; —, penetration and formation of traders' jargons in Africa, 23 f.; —, half-breeds forming the Mande tribes, 24 f.; —, circumcision, memory of, preserved in Mande and Bantu "two" words, 29; —, finger language and "ten" in Nubian and Mande, 31 f.; —, encampment in custom and speech in the Western Sudan and among the Bantus, 34 f.; —, traders and traders' jargon in Mexico, 35; —, finger language and "ten," through the Mande, in Mexico and Yucatan, 35 f.; —, circumcision, through Mande "twin" concepts, leads to feudal attachment in Mexico, 36 f.; —, elder as royal title in Africa, 44; —, God in Mexican "sky" concept, 49; —, connection of hare and water with the moon in Aztec concept, 53; —, pearl and rain story in Mexican form, 53 f.; —, Aquarius and the water jar, as related to violent rain in Africa, 59; —, Aquarius and the water jar as *Tlalok* and the water jar, in Mexico, 59 f.; —,

Aquarius transferred to Gemini in Western Sudan, hence etymological confusion of "twin" and "heavy rain," 61; —, Gemini in Qazwīnī, 61 f.; —, Great God who sends fructifying wind, in Quran and Qazwīnī, 62; —, as *Ketsalkowatl* in Mexico, 62 f.; —, Gemini taken from Hindu astronomy, after ninth century, 63; —, Gemini as *Ketsalkowatl*, the Precious Twin, and the pearl, 63 ff.; —, pearl story from the Hindu, 63 ff.; —, Old God, as Rain God, passing over Canaries and West Indies to Mexico and Central America, 66; —, rain and pearl connection in Mexican *Ketsalkowatl*, 67 ff.; —, God, "as a niche in the wall wherein a lamp is placed," of the Quran, appears in Mexico as *Teskatlipoka*, "the dim light that shines in the night," 70 f.; *Furqān*, through its etymology, leads to Kiche *Hurakan* and to Mexican *Teskatlipoka* at the crossroads, 71 f.; —, north-south origin of the oil in the lamp in the niche leads to north-south in Mexican and Mayan conceptions, 72 f.; —, God the Provider, in the Quran, 74; —, and *Tonakatekutli*, 76 f.; —, travel and prayer at dawn, 79 f.; —, in Wolof and Mande conception, 79 f.; —, connection between scorpion, fire, morning prayer, and merchant, 80 f.; —, in linguistic conception, in Africa and America, 81; —, in representation of the Mexican *Šuhtekutli* with the scorpion, 81 f.; —, injunction for traveling merchant, 82; —, and Mexican *Yakatekutli*, 82 f.; —, correlation of iguana with prolific productiveness, and the same in Mande, Mayan, and Mexican belief, 86 ff.; —, correlation of moon, as source of productiveness, and winning in the game, as *Teskatlipoka* and *tlačko* in Mexico, 88; —, "zero" in Mexico and Yucatan, 89; —, months in Mande transformation, 90; —, further transformed in Mexico, to suit changed climatic conditions, 90 f.; —, origin of the *Mani* (Mande) people, with their *mani* (hippopotamus) *tana*, 91 ff.; —, the latter transformed in America to *mani* (deer) and connected with the plum (deer fruit) ripening in the dry season, 96 f.; —, respect for the bee, from the Quran, in the Mande *Nama* worship, 98 f.; —, leads to

Bee God in Mexico and Yucatan, 99 ff.; —, origin of maize from Tibet, in Africa, Europe, and America, 106 ff.; —, origin of the Nine Lords of the Night, in Africa, 130; —, criminal judges dressed in leopard skins, as in Persia, 137 f.; —, in Africa confused with gladiatorial combat and sacrifice of camel over the grave, 138; —, this custom appears in America as jaguar-skin adornment of judges and generals, and of soldiers in gladiatorial combats, 138 ff.; —, transformation of Berber stone worship in Africa, 155; —, leads to stone pillars in Gambia region, under Mande influence, 155 f.; —, from which evolve the *tuns* and *qatuns* in America, 157 ff.; —, lunar mansions and "thirteen" in America, ignored by American School of Archeology, 167 f.; —, place value notation in America, ignored by American School of Archeology, 168; —, "zero" in America, ignored by American School of Archeology, 169.

Arabic etymological elements, in Berber, of "learned" and of "popular" origin, 1 f.; *dagara*, in Berber and in the Western Sudan, 1; —, contaminated by *dakka* and *taraka* in Western Sudan, 2; overwhelming number of Arabic words in the Mande languages, 2; *ġum* "fist," and finger language for "ten" in Africa, 15 ff.; —, and dispersion of the Bantus, 15; —, in Nubian, 15; —, in other northeastern languages, 15 f.; —, Berberized, 16; —, in Shilha, 16; —, most complete in Bantu, which proves dispersion as post-Arabic, 16; —, in various Bantu languages, 16 ff.; phonetic treatment of Arabic *ġ* in Bantu, 17; *fug*, in Bantu, 17 f.; —, in Western Sudan, 17 ff.; *ġum*, well preserved in southern Bantu, 19 f.; —, in Hausa, 20; *saba'a*, as "ten," in Peul and Kunama, 20; *ġama'a* and *ġum*, as "learned" and "popular" words in Mande, 20 f.; —, contaminated with *qwm* in Mande, 21; this contamination leads to "speak" words in Mande, 22; —, in Bantu, 22 f.; Arabic vocabulary in traders' jargon, that is, Mande, 25; *tarġamān*, in Mande, 25; *raḥ*, in "travel, go" words, in Berber, Nubian, and Somali, 25 f.; —, contaminated with *tarġamān*, in Mande, Hausa, and Wolof, 25 f.; —, in Peul, etc., 26; the Mande confusion in Bantu, 26; *'adl*, in Berber, Hausa, Mande, 27; "travel" and "extent" confused in Bantu, 27; Peul form of *raḥ* in Mande, etc., 27; *ṭama'*, in

Western Sudan and Bantu, 27 f.; *rami*, *ramḥ*, in Bantu, Mande, Berber, Hausa, 28; *fulāni*, and circumcision, 29; —, in Berber, 29; —, and "two," in Mande, 29; —, in Bantu, 29; *zaug*, in Peul and Berber, 29 f.; *ṭlaṭa*, in Peul, Bantu, Mande, 30; *'arba'ah*, *raba'a*, in Peul, Hausa, Mande, 30; *kalama*, in Ashante, Peul, etc., 30; —, contaminated with *raba'a*, in Mande "four, useless" words, 31; —, in Bantu, 31; *ḍamm*, *ḍabb*, leading to "grasp, ten," in Western Sudan, 31 f.; —, of late origin, 32; *'arram*, in Berber and Western Sudan, 32; *'aun*, in Berber, 32; *'arram*, leading to tun "five," in Mande, 33; —, in Bantu, 33; —, leading to "sleep" words in Bantu and Mande, 34 f.; *ġum*, in Nahuatl and Mayance, 35; *ḍamm*, *tamm*, in Nahuatl and Mayance, 36; *fulāni*, in Nahuatl, 36 f.; *raba'a*, *kalama*, in Nahuatl, 37; *qadīm*, in Western Sudan and Berber, 44; —, in Nahuatl, 44; *karš*, *akūr*, in Berber and Mande, 46; —, possibly in Nahuatl, 46 f.; *'aūrah*, *kūr*, in Mande, 47; —, in Nahuatl and Mayance, 47 f.; *Illah*, in Nahuatl, 49; *bunduq*, in Western Sudan and Maya, 57; *sabb*, in Western Sudan and Nahuatl, 59; *ḥabā*, in Mande and Maya, 59; *sabb* and *tau'amain*, confused in Western Sudan, 61 f.; *sama'*, in Africa, Canaries, and America, 66 f.; *sama'*, and "north" in America, 69 f.; *furqān*, and Kiche *Hurakan*, 71 f.; *sama'*, and "north" in Maya, 72; *sā'ah*, in Mande, 74; *ḥašiš*, in Berber and Western Sudan, 74 f.; *duġāġ*, in Mande, 75; the two confused, 75; *ḥašiš*, in Nahuatl and Mayance, 75; —, "green, blue," in Africa, 75 f. —, in America, 76; —, leads in America to "enflame," 77 f.; *saugār*, in Western Sudan, 78 f.; —, in America, 79; —, in Africa and America confused with "hair" words, 79; *safara*, in Western Sudan, 79; *tarġamān* and *raḥ*, confused in Africa and lead to "five," 80; *'aqrah*, "scorpion, to curve," leads in Africa and America to parallel developments, 81; *qamar*, leads to "moon" and "deceive" words in Mande, 88; Mande months from the Arabic, 90 f.; *maulai*, in Berber and Western Sudan, 91 f.; —, leads to *mani* words in Mande and in America, 92 f.; *muqqadam*, in Africa, 92; the two confused, 92 f.; *qafal*, in America, 94 f.; —, in Africa, 95 f.; *qbīr* and *bābā* coalesce in Western Sudan, 96; *ṣaum*, in Africa and America, 96; *ṣabr* and *ṣauk*, in

- America and Africa, 99 f.; —, confused with *ṣubḥ*, 100; *ṣabr*, in Nahuatl, 100; 'aiš, in Africa and America, 101; —, leads to "wine, honey" in America, 101 f.; *ḥabā*, in America, 102; *maḡorca*, origin of, 107; *ruqqah*, origin and history of, 108; *mṣr*, for *maḡorca*, in Africa, Asia, and Europe, 108 ff.; *makkik*, in Asia, 110 f.; *ḡāwars*, and Hindu "maize" words, 110; *makkik*, in Africa, 111; —, leads to "Mecca" for "maize," 111; etymology of "egg-plant," 112; 'abyaḡ, "white man," history of, in Western Sudan, 112 f.; —, in Bantu, 114; —, from Tibetan *Bod*, leads to "maize," in Africa, 114 f.; —, in South America, 115; *sā'ah*, in Mande, 116; *sīrah*, in Western Sudan, 116; *sā'ir*, in Mande, 117; *ši*, in Mande, 117; *ḥašiš*, in Mande, 117; —, and *ša'r*, confused, in Africa, 117 f.; —, further confused with *ṣīr*, in Africa, 118; —, in America, 118; 'abyaḡ, "maize," in Nahuatl, Mayance, etc., 119; confusion of Arabic "hair" and "maize," in America, 119 f.; *ḡum*, in America, 127; —, in Africa, 128; Persian *palaḡ*, in Africa, 137 f.; —, contaminated by *balā'un*, *baliyah*, in Africa, 138; —, through the Mande, in America, 138; 'arram, in Africa, 143; —, in Maya, 144; *fug*, in Africa and America, 145; 'arram, through Mande, in America, 146; *nhār*, in Africa and America, 146 f.; *ṣaḡḡa*, in Berber and Mande, 151; —, in Mayance and Nahuatl, 152.
- Armadillo, confused with crocodile, through Mayan homonyms, 124; —, and "leprosy," another confusion, 124 f.; —, and crocodile in Mayan codices, 125.
- Arrow, and *Tlalok*, 56; —, cross turned into, in *gatun* wheel, 166. See glyph *akatl* and *been*.
- Astronomy. See Aquarius, Calendar wheels, Deer, Earth, Gemini, Moon, North, *Ramaḡan*, *Ṣawwal*, Sky, South, Sun, Tableau of the Bacabs, Thirteen, *Tun*, Venus.
- Atl-tlačinolli*. See War.
- Australian words in Biche-la-Mar, 5.
- B**
- Baizes, history of, in northwestern trade, 9; —, leading to Chinook "white man," 9.
- Bangala, an African *lingua franca*, history of, 23 f.
- Bantu, migration post-Arabic, 15; —, so proved by study of "tén," 16; —, unstable *f*, for *h*, *k*, probably aided by *fu*, from Arabic *fug*, 17 f.; —, migration earlier than introduction of *fu* "ten" into Mande, 19; —, *kum*- "ten" not in Semi-Bantu, hence pre-migration home not far from Hausas, 20; —, *lingua franca* of Bangala, 23 f.; —, in some relation to Peul, 27; —, Nigerian origin of, apparent from study of "two, three, four, five," 29 ff. For groups of words treated see under Arabic etymological elements.
- Barros, João de, 106.
- Basset, R., on Arabic element in Berber, 1 f., 44.
- Battell, Andrew, 109.
- Bee, and rain in Mande and Maya, 102; —, hive and *Nama* worship among the Mandes, 99; —, god in America, 99 f.; —, Black God as, 102 f.; —, and crocodile, 127.
- Berber, popular borrowings, from Arabic, according to Basset, 1; —, studied in connection with the same borrowings in Western Sudan, 2; —, in ascending path from Western Sudan, reveal Arabic constituents, 25. For groups of words treated see under Arabic etymological elements.
- Biche-la-Mar, as defined by Schuchardt, 3; —, and Chinese Pidgin-English, 3; —, in Queensland, 4; —, in Melanesia, 4 f.
- Black God, history of, 98 ff.; —, as Bee God, 102 f.
- Blankets, and baizes, in northwestern trade, 8 f.; —, and Boston traders, 8 f.
- Bloomfield, M., 63.
- Boston, traders and baizes in Northwest, 7 ff.; —, and shipbread, 8; —, and "American" in Chinook, 8.
- Brinton, D. G., on iconomatic writing, 50 f.; —, 148 ff., 157, 172.
- Budge, E. A. W., 59, 130.
- C**
- Cajori, F., 168.
- Čak*, representation of, in Maya codices, 84 f.; —, and water-eye, 85; —, 103 f.
- Camel, constellation of, and Aquarius, in Western Sudan, 61; —, connected with deer in America, 90 f.; —, and gladiatorial sacrifice, 138.
- Canoa*, as a ghost word, compared with "quash," 13.
- Chinook jargon, its history, 7 ff.; —, its origin between 1812 and 1825, 10; —, its French element, 11.

Chronicles, Mayan, analyzed, 148 ff. See *Ahau*,
Ah Napot Šiu, *Ahpulhab*, *Kokoms*, *Qatun*,
Tutulšiu.

Čimalman, 67.

Circumcision and "twin" in Africa, 29.

Codex Tro-Cortesianus, its pagination, 84 f.; —,
its "hieratic" writing, 85.

Cogolludo, 131, 159, 160.

Columbus, on maize, 106; —, 13.

Cook, Captain, 5, 7.

Cordeiro da Matta, J. D., 109.

Cordoba, Juan de, 43.

Cox, R., 11.

Cree Indians and "potato" in the Northwest, 14.

Crocodile, and maize in Africa, 115 ff. See *Ose-*
lotl.

Crossroad, and *Teskatlipoka*, 71; —, its connec-
tion with Kiche *Hurakan*, 72.

Crum, W. E., 65.

D

Death, connected with Tableau of Bacabs, 55;
—, and crocodile, 128. See Descent, *Kimi*.

Deer, and drouth in Maya, 91; —, related to
"large beast, hippopotamus," in Western Su-
dan, 91 ff.; —, and "plum-beast" in Aztec, 93;
—, syncretized with "rapacious beast," 93; —,
as seventh day glyph, 96; —, expressing
drouth in Mayan codex, 97; —, and crocodile
worship, 125; —, a nondescript animal in
Mayan codices, 125 f. See *Mani*.

Delafosse, M., 16, 24, 91.

Descents, into earth, and crocodile, 122; —, in
Mayan codices, 126.

Destaing, E., 46.

Dog, and rain, in Aztec and Maya, 42; —, bor-
rowed into Huasteca and Zapotec, 42.

Doutté, E., 155.

Drop and small shell, connection of, in Aztec, 51.

E

Earth, etymology of *tlalli*, 48; —, crocodile as,
126. See *Sipatli*, Descent.

Ehekatl, as fructifying wind, 67; —, its glyph,
68. See *Ketsalkowatl*.

Ekčuh, the black scorpion, 81; —, its etymology,
81; —, with water-eye in mouth of beast, 85.

Epagomenal days and Venus, 142.

Ephraem, 66.

Esperanto and Bangala, 24.

F

Ferrand, G., 112.

Finger language, among the Masai and Hereros,
15; —, among the Kunamas, 20.

Fire, God and *Šiuhtekutli*, 78; —, and "travel"
in Western Sudan, 79.

Fraenkel, S., 78.

French, word in Nootka, 7; —, words in Chinook
jargon, 11.

Frog, philologically related to moon in Aztec,
86 f.; —, in "month" and "twenty" glyph, 89.

G

Galiano, D. A., 7.

Gamio, 58.

Gass, P., 11, 14.

Gemini, takes the place of Aquarius in Western
Sudan, 61; —, arose partly from a linguistic
confusion, 68; —, in Qazwini, 61 f.; —, and
Ketsalkowatl, 62 f.; —, in Hindu astronomy,
63. See *Ketsalkowatl*, Two.

Gladiatorial sacrifice, in Mexico, 139 ff.

Glyphs: *ahau*, 152; *atl*, 38 ff., 49 ff.; *been*, 56 f.;
čalčiwitl, 75; *čen*, 90, 96; *edznab*, 67; *ehekatl*,
67; *imiš*, 120, 124; *itsli*, 67; *kaban*, 59 f., 102;
kawah, 40; *keh*, 90; *kiawitl*, 40; *kimi*, 127;
kwetspalin, 86; *muluk*, 46; *olin*, 59 f.; *qan*,
86; *sipatli*, 115 f., 124; *šiwitl*, 75 f.; *sočitl*,
151. For other glyphs see Numbers and in the
Word Index.

God, one, but various aspects of him in America,
83.

Green Snake and *Ketsalkowatl*, 76.

Guanche Raingod, identical with African and
American, 66.

H

Hale, H., 7, 8, 9, 11.

Half-breeds, and *lingua franca*, 10 f., 24.

Hare, and moon, in Arabic conception, 53; —, in
Aztec, 53; —, and *Teksistekatl*, 54; —, and
iguana, in Aztec, 85; —, and lizard, in Aztec,
101.

Heap, see Five and *Tun*.

Henry, J., 98.

Hernandez, F., 90, 100.

Hereros and finger language, 15.

Herrera, 158.

"Hieratic" writing, in Codex Tro-Cortesianus,
85.

Hindu elements in Mexico and Yucatan, see
Gemini, Pearl, Thirteen, Zero.

Hippopotamus *tana* and Mali, 91.
 Hollis, A. C., 15, 31.
Hurakan, as the One God, 71; —, and the *Qur*-
ran, 82; —, and the crossroad, 74.

I

Iconomatic writing, Brinton's, analyzed, 65 f.
 Iguana, and hare, in Aztec, 85; —, and abundance, in Maya, 85; —, and *Teskatlipoka*, 85; —, and water, 86.
Ilamatekutli, 77, 133.
Istak Miškowatl, 77, 83.
Itsamna, creator of all things, born of virgin, 66; —, etymologized as "mother of pearl," 66; —, from Mande "rain" word, 66; —, leading to Nahuatl *itsli*, etc., "obsidian knife," 66 f., 69; —, and *Teskatlipoka*, 69 ff.; —, and "direction" words in Nahuatl and Maya, 72; —, and north-south, *Itsilan*, etc., 72 f.; —, and *Šaman*, 103; —, and *Tlasolteotl*, 135.
Itspapalotl and obsidian knife, 101.
Istla Koliuhki the Avenging God, from etymological considerations, 69.
Itsilan, see *Itsamna*.
Itsli, 72, 78, 86. See *Itsamna*, Obsidian knife, *Teskatlipoka*.

J

Johnston, Sir Harry H., 15, 19, 114.

K

Kawak sign in *čen*, *yaš*, *sak*, *keh* months in Maya, 90.
Ketsalkowatl, and snakes, 56; —, history of, 61 ff.; —, as "bounteous rain" and "twin," 61 f.; —, God of the fructifying winds, in *Qazwīnī* and the *Quran*, 62; —, and Hindu astronomy, 63; and the pearl myth, 63 ff.; —, and the Huastecas, 66; —, and mother of pearl, that is, *Itsamna*, 66 f.; —, as *Ehekatl*, etc., 67; —, and virgin birth, 68; —, turns into *Teksistekatl*, 68 f.; —, and obsidian knife, 68; —, and *Teskatlipoka*, 69 ff.; —, as attribute of the Great God, 83; —, in Mayan codices, 85 f.; —, and Bee God, 103; —, as Ninth Lord, 131 f.; —, and *oselotl*, in Mexican codices, 132; —, in Mayan codices, 142; —, and the *Kokoms* and *Yowaltekutli*, 165; —, at Tula, 170.
Kimi, etymology of, 35; —, as "sixth day, ten, kill," already in Mande, 35; —, in America and Africa, 127 f.; —, *sipatli* marks on, in

Mayan codices and inscriptions, 128; —, represented by *sipatli* marks in "twenty," 128 f.
 See Death, *Miktlantekutli*.

Koelle, S. W., 111.

Kokoms, in the Maya chronicles, as opponents of *Tutulšius*, 161 ff.; —, etymologically "the rebels," 165, 167.

Koskakwauhtli, and *Tsopilotl*, 199; —, and Bee God, in Mayan codices, 102; and turkey, 104; —, its etymology, 104; —, and bead necklace, 105.

Koyotlinawatl, 98.

Kunama, finger language, 20.

L

Landa, D. de, 142, 152, 153, 158, 159, 165, 167.

Laufer, B., 112.

Lehmann, M., 40.

Lentzner, K., 3.

Lewis and Clark, and history of "quamash," 11 ff.; 6, 9, 11, 12.

Lingua franca, and half-breeds, 10 f., 24; —, in Africa, 23 ff.; —, and Mande, 25; —, in America, 35. See Bangala, Biche-la-Mar, Swahili.

Lizard and hare in Aztec, 101.

Loanwords in African languages, 1 ff.

Long-nosed God, 82 f. See *Yakatekutli*.

M

Maage, M. E., 145.

Maize, identified by Columbus and Peter Martyr with "panicum," 106; —, from 1520 on with *zaburro*, 106 f.; —, by Columbus and Barros with *maçorca*, *maçaroca*, 106; —, by Sousa with Guinea millet or *zaburro*, 107; —, *maçaroca*, contracted in Arabic to *mišriy*, as name of, throughout Africa, 109; —, an African term, 109 f.; —, in India known by a form of *makka*, from Arabic *makkik* "shuttle," 110 f.; similarly throughout Africa, 111; —, from *Bod* "Tibet," in Asia, 112; —, by the Arabs confused with 'abyaḍ "white," and similarly throughout Africa, 112 ff.; —, as *zaburro*, from 'abyaḍ, 114 f.; —, from 'abyaḍ, in South America, 115; —, in Africa related to crocodile, 119; —, from 'abyaḍ and "crocodile" root in Central and North America, 119.

Makwil Kwauhtli, 122.

Mande, languages lost African appearance through Arabic loanwords, 2; —, homonyms studied in the light of Bantu loanwords, 37;

—, *lingua franca* and Mayan languages, 37;
 —, history of, 91 f.; —, and their *tana*, 93,
 96 f.; —, *mani*, as Mayan seventh-day glyph,
 96; —, in Zapotec, 96; —, *Nama* worship
 among the, 98 f.; —, “bee” and “heavy rain”
 homonyms in, 102; —, crocodile, and maize
 sacrifice among the, 119; —, gladiatorial
 sacrifice, 138; —, origin of Leopard Society,
 138; —, *tun*, 144; —, numeration, 144 f.; —,
 stone pillars among the, 155 f.; —, history of
 the *tun* among the Khasonkes, 156 f.; —, pairs
 of stones, 156 f.; —, origin of *ka* “two,” 157
 f. For groups of words treated see under
 Arabic etymological elements.

Mani, etymological history of the people in
 Africa, 91 ff.; —, original meaning “great”
 and referred to man or beast, 93; —, as
 seventh-day glyph, Bambara “hippopotamus”
 becomes *masatl* “deer” in Mexico, but by the
 Mayas preserved as *maniq* and represented by
mani “nothing,” 96 f.; —, in Zapotec “ani-
 mal,” 97; —, worship brought over the ocean,
 125. See Deer.

Mani, city in Yucatan, see *Tutulšiu*.

Martius, 115.

Masai, and finger language, 15.

Means, P. A., 166.

Meares, J., 6.

Meinhof, 31.

Melanesian variety of Biche-la-Mar, 4 f.

Mendieta, G. de, 164.

Menstruation, connected with hare in Arabic con-
 ception, 53.

Menzies, 9.

Miktlantekutli, 122 f., 131. See Death, Descent,
Kimi.

Monteil, Ch., 29, 150.

Miškowatl, 136.

Moon, and hare, in Aztec, 53; —, and fertility,
 etc., in Qazwīnī, 53; —, and obsidian knife,
 53 f.; —, *Teksistekatl*, 54; —, and *yaka-*
metstli, 54; —, and Tableau of the Bacabs,
 54 f.; —, and obsidian knife, 68; —, not well
 established in Mexico, 68 f.; —, and iguana,
 86; —, and *Teskatlipoka-Itstli*, 86; —, and
 frog, in Aztec, 86 f.; —, and productiveness in
 Qazwīnī, 87 f.; —, and “winning,” in Africa
 and Mexico, 88; —, vigesimal month has all
 the attributes of, 88 f.; —, and frog, in Maya
 codices, 88 f.; —, and Arabic months, 90 f.

Morley, S. G., 148, 151, 159, 169, 170.

Motolinia, Fray Toribio de, 148, 160, 164, 165.

N

Nama worship of Mandes described, 98 f.; —,
 and beehive, 99; —, and Quran, 99; —, lead-
 ing to Bee God in America, 99 ff.

Negro, *Tsopilotl*, and wine, 102; —, as travel-
 ing merchant and Bee God, 103 ff.; —, and
sipatli marks, 127. See Bee God, Black God,
Tsopilotl.

Nigeria and Bantu home, 19.

Nootka, French word in, 7; —, traders at, before
 1792, 7; —, and “quamash,” 11; —, points to
 overland trade before Lewis and Clark, 13.

North and South, and *Teskatlipoka*, 70 f. See
Teskatlipoka.

Nubia and Arabic “fist” words, 15.

Numbers, serving as base for the correlation, of
 Bantu with Mande, 15 ff.; —, of Nahuatl and
 Mayance with Mande, 35 ff.; —, first thirteen,
 from the Thirteen Lords of the Day, in Maya,
 130 f.; —, in Mexico, 132 f.; —, formation of
 multiples of “twenty,” in Mayance, 144; —,
 contamination of vigesimal by decimal, in
 Mande, 145; —, vigesimal “complete,” in
 Nahuatl and Maya, etymologically identical
 with decimal “complete,” in Mande, 145 and
 35 f.; —, place value notation of, in Maya and
 Arabic, 168; —, decimal, in Arabic and Maya,
 168 f.; —, vast, in Maya codices, 169 f.; —,
 the same vast, in Hindu chronology, 63.

Zero, not invented in Maya, 89; —, due to
 Aztec homonym with “water,” 89; —, ex-
 pressed in Mayan codices by a shell, and gen-
 erally by a hand, Death, or Tableau, 89; —,
 in Malinke *sí*, from Arabic *šī*, 117; —, in
 Maya and Arabic, 169.

One, five in Mexican religious conception
 equal to, 71; —, his foot, etymology of Kiche
Hurakan, 71; —, its Mayan glyph as First
 Lord, 134; —, as “heap,” in Huasteca and
 Ayook, 146; —, as schematic year in Moto-
 linia and Landa, 159 f.

Two, from Arabic *fulāni* “so and so, the
 like,” in Western Sudan and Bantu, 29; —,
 and “twin” of Arabic circumcision, 29; —,
 from Arabic *zauḡ*, in Peul and Berber, 29 f.;
 —, in Nahuatl “companion” words *-pil*, *-po*,
 37; —, the relation of *Ketsalkowatl* to, 61; —,
 relation of “bounteous rain” to “twins” in
 Western Sudan, 61 f.; —, in Arabic thought,
 61 f.; —, in Hindu astronomy, 63; —, its
 Mayan glyph as Second Lord, 133; —, and

Arabic circumcision in Khasonke, 156; —, association in Mande based on, 156 f.; —, as connected with Mayan count of years, 157; —, etymological proof of relation of Maya *qatun* and Nahuatl *koton(ia)* to, 157; —, the root *ka*, *kwa* for, in Huasteca, 157 f.; —, in Mande, 157 f.; —, wings of a *qatun* in battle array, 158; —, priests alternating in epagomenal days, 159; —, in Cogolludo, 166.

Three, from Arabic *tlata*, in Peul, Bantu, and Mande, 30; —, its Mayan glyph as Third Lord, 134.

Four, from Arabic *'arbā'ah*, leads to Peul *nai* and Mande *nani*, through the development of the homonymous *rāba'a* "coaxing," of the same root, to *lalaba*, *nana* "cajoling," etc., in these languages, 30 f.; —, in Nahuatl *nawi*, like the identical *nen-* "useless" words with the Mande, possibly of the same origin, 37; —, its Mayan glyph as Fourth Lord, 134; —, heaps of five, the "complete" count, in Bambara, 145; —, divisions in Mayan chronicles schematic, 149; —, as "all" in Maya, 149; —, years, *Tutulšiu*, of the Mayan chronicles, 149 f.; —, fold years, as *Napot Šiu*, 166; —, year *qatuns*, 172.

Five, from Arabic *'arram*, in Mande and Wolof, 32 f.; —, are one, in the conception of the Great God, as in five *Teskallipokas*, directions, *Tlaloks*, 71; —, other pentads, 73; —, as quincunx and *tun*, in Mayan representation of "twelve," 134 f.; —, its Fifth Lord, *Tonaleke*, a pentad, and represented by *tun* in Mayan codices and inscriptions, 135; —, evolves in Africa and America from Arabic *'arram*, 143 f.; —, as "heap" in its lowest denomination, in Mayance, 144; —, four heaps of, as the "complete" count, in Bambara, 145; —, the Mayan *tsuk* of, 150; —, its schematized Mayan glyph, 154; —, Spinden's and Morley's correlated dates to be divided by, in order to get approximately correct years, 170 f.

Six, Mayan *kimi* for "sixth" day identical with Malinke (*ar*)*d'uma* "sixth day," 35; —, its glyph as Sixth Lord, 132 f.; —, varied from "sixteen" because of presence of *Kimi*, as "ten," in latter, 132.

Seven, its glyph as Seventh Lord, 134.

Eighth, its glyph as Eighth Lord, 134.

Nine, gods (of the night), in Egypt, 130; —, in Mosi mythology, of Arabic origin, 130; —,

in Mexico, 130; —, its glyph as Ninth Lord, 131 f.

Ten, as basis for the study of Bantu migration, 15; —, and finger language among the Masai and Hereros, 15; —, from Arabic "fist," in Bantu, proof of post-Arabic migration, 16; —, as *kumi*, from Arabic *ġum'*, universal in Bantu, 16 ff.; —, from Arabic *fuq*, found in Mande but not in Bantu, hence migration took place earlier than the "ten" word in Mande, 19; —, from *kumi*, not in Semi-Bantu, hence the migration is later than that settlement and proceeds from Nigeria, 20; —, from Arabic *šaba'a* "to point with the fingers," in Peul and Kunama, 20; —, in Kunama finger language, 20; —, African *tam*, from Arabic *ḍamm* "to seize," in the East, 31; —, also as *tam* in Mande, where the corresponding Soso word also means "to seize," 32; —, from Arabic *fuq*, in Mande, 32; —, in Maya *kimi* "death," representing "ten," from Arabic *ġum'*, 128; —, traces of Arabic *ġum'* in Mande, 128; —, its Mayan glyph as Tenth Lord, 133; —, in eastern Mande, *tam*, 145; in western Mande, *fu*, from Arabic *fuq*, 145; and see *Twenty*.

Eleven, its Mayan glyph as Eleventh Lord, 133.

Twelve, its Mayan glyph as Twelfth Lord, 134 f.

Thirteen, Lords of the Day, in Mexico, 130 ff.; —, represented in Mexican codices by a hook in front of the mouth, 131; —, in Cogolludo and Mayan inscriptions, by a scratch on the cheek, 131; —, represent, in Mayan inscriptions and codices, the first thirteen numbers, 131; —, its Mayan glyph as Thirteenth Lord, 133; —, and Thirteen Lords, in Mexican *Tonalamatl*, 158 f.; —, day week, in Maya and Hindu *nakshatras*, 167; —, sacred number among Mayan people.

Sixteen, its glyph varied from "six," 132.

Twenty, as Nahuatl *kimilli*, *tlamik*, *poalli*, all from the corresponding "ten" words in Mande, 35 f.; —, in Mayance and Nahuatl, for "month," from Arabic *fuq*, 86; —, further reductions of lunar month, 97; —, in Nahuatl *kimili*, "a package of twenty," 127; —, represented in Maya as a water jar with a shell, that is, "moon," 128 f.; —, from Mayan *tu* "heap," 144; —, four heaps of five, the "complete" count in Bambara, 145; —, in Nahuatl

sempoalli "one complete count," 145; —, originally *fu* in Mande, 145; —, and "nothing," in Mande and Maya, 145 f.; as "heap" words in Mayance, 146; —, year *'qatun* nonexistent, 159; and see Ten.

Forty, as "heap" in Pokonchi and Kekchi, 146.

Eighty, as "complete" count, from Arabic *sā'ir*, in Mande, 117; —, in Bambara count, 144 f.

Thirty-six thousand, years, Gemini, and end of the world in Hindu chronology, 63; —, as serpent number, that is, connected with Gemini (*Ketsalkowatl*), in Codex Dresden, 169 f.

O

Obsidian knife, instead of hare, in Aztec representation of moon, 53 f.; —, connected with *Teksistekatl*, 54; —, and mother of pearl, 66; its etymology, 66 f.; —, as precious as pearl, 68; —, and moon, 68; —, and "north," 69; —, and *Teskatlipoka*, 70 f.; —, in Maya leads to "moon," 86; —, and *Itsapalotl*, 101. See *Itsamna*, *Teskatlipoka*.

Old God, *Tlalok* and *Ketsalkowatl*, 61; —, among the Guanches, 66; —, *Tonakatekutli*, and others, 77; —, and "water-eye," in Mayan codices, 90; —, as a Black God, etc., 125 ff.

Olin and water jar, 59.

Ometekutli, 133.

One God, among the Mayas, and Kiche *Hurakan*, 71.

Oselotl, its representation in Mexican codices, 136; —, yellow color and black patches on, 136; —, speared, 136 f.; —, in social concepts, 137; —, and mummy pack, 137; —, as judge to whom Indians confess, 137; —, Arabic judges and leopard skins, 137; —, originally a Persian custom, 137 f.; —, linguistic confusion in Africa with words for gladiatorial sacrifice, 138; —, same confusion in Maya and Nahuatl, 138; —, soldiers and gladiatorial sacrifice in Mexico, 138; —, skins and royal authority, 140; —, and the sun, 140; —, glyph in Mexican codices, 140 f.; —, in Mayan codices, 141; and *Tlawiskal-pantekutli*, 141; —, and *Ketsalkowatl*, 142; —, and epagomenal days, 142; —, takes the place of the sun, 142; —, and *qatun* glyph, 158; —, skin attire on *qatun* lord and chief priest, 158.

P

Pacific jargons and whalers, 3.

Parker, H., 156.

Patekatl, 139.

Pearl myth, its history, 63 ff.; —, and *Ketsalkowatl*, 63; —, among the Hindus, 63 f.; —, among the Arabs, 64; —, in Coptic, 64 ff.; —, in Syriac, 65 f.; —, and obsidian knife, 68.

Pentads, see Five.

Persian origin of jaguar skin as expression of royal dignity, 137 f.

Peter Martyr, 106.

Peul, its relation to Bantu, 27.

Pidgin English, 3.

Plum beast in America, and dry season in Africa, 91; —, a nondescript animal. See Deer.

"Potato," its history in the Northwest, 14.

Productiveness and the moon, in America, 86; —, in Qazwīnī, 87 f.

Provider, God, in the Quran, 74; —, and *Tonakatekutli*, 76.

Q

Qatun, conflicting accounts in Mayan chronicles as to its duration, and variously estimated as of twenty or twenty-four years, 150; not recorded in Mayan inscriptions, 151; —, Mayan calendar wheel, according to Landa, called "war of the," 153; —, Landa's faulty account of the, 153; —, its original meaning "company of soldiers in battle array," and, from the corresponding Nahuatl *koton-* words, is derived from "two" and "heap," 157; —, this confirmed from Herrera and in Codex Nuttall, 158; —, its glyph composed of *tun*, topped by *oselotl*, etc., and flanked by two wings, 158; —, precise correspondent to Mande *fulantun*, 158; Landa's misunderstanding of, 159; —, of no avail for chronological purposes, except if divided by five, 170 f.

Qazwīnī, and the moon, 53; —, and Gemini, 61 f.; —, and fructifying winds, 62; —, and Hindu astronomy, 63; —, and the scorpion, 81; —, and productiveness, as connected with the moon, 87 f.

"Quamash," its philological history, 11 ff.

Queensland variety of Biche-la-Mar, 69 f.

Quran, and the fructifying winds, 62; —, and *Teskatlipoka*, 69 f.; —, and *Hurakan*, 72; —, and *Tonakatekutli*, 74; —, and morning

prayer, 79; —, and early ablutions of merchants in Mexico, 82; —, and *Nama* worship in Africa, and Bee God among the Mayas, 99.

R

Rain, its history in Aztec and Maya, 40 ff.; —, bird, in Nahuatl and Maya, 41 f.; —, and dog and turtle in Aztec and Maya, 42; —, its representation in Aztec codices, 49; —, and "lightning" and "war" in Aztec, 56; —, and Aquarius in Africa, 59; —, God among the Guanches, 66; —, and frog in Aztec, 86; —, and bee, in Mande, 102; —, in Maya, 102. See *Tlalok*, Water.

Ramādān, Arabic, and dry season in America, 90; —, in Maya and Aztec, 96.

Ramusio, 107.

Rebus form of writing in Aztec and Maya, 50 f.

Reinaud, J. T., 64.

Reinisch, L., 20.

Robinson, C. H., 113.

Ross, A., 7, 8, 10, 11.

Royal dignity and jaguar skin, 140.

Ruelle, E., 130.

S

Sahagun, B. de, 49, 68.

Šamanek, 103.

Sauvant, P., 144.

Šawwāl, Arabic month, and its relation to deer in America, 90 f.

Schuchardt, H., 3.

Scorpion, and "travel," in Peul, 80; —, in Arabic conception, 80 f.; —, and hardship of travel, in Qazwīnī, 81; —, "shoot, curve," in Mande, Maya, and Nahuatl, 81; —, and *Šiuhtekutli*, 81 f.

Seler, E., 40, 43, 50, 54, 58, 66, 71, 76, 77, 96, 104, 115, 121, 130, 132, 134, 137, 142, 154.

Shaw, G. C., 11.

Shell, and drop, in Aztec, 51; —, and water, in Aztec, 52.

Shipbread, history of, in Northwest, 7; —, and traders, 13.

Sinteotl, 122 ff., 134.

Sipaktonal, 77.

Sipatli, its etymology, 115 ff.; —, its Tarascan correspondents, 115 f.; —, its Zapotec and Mayance correspondents, 116; —, Nahuatl "shave" words related to, 116; —, in *Šipe*, the Flayed God, with *sipatli* marks, 116; —, con-

taminated by "hair" words, in Nahuatl, 116; —, similarly contaminated in Mande, 117; —, contaminated with "grass" words in Western Sudan and Berber, 117 f.; —, in Nahuatl and Mayance, 118; —, connected with maize in Africa, 118 f.; —, in "maize" words in America, 119; —, in "beard" words in Mayance (leading to Maya *imiš* glyph), 120; —, a barbed water animal, 121; —, representation of, in Mexican codices, 121; —, brown color and patches on, 121; —, sometimes a shark, 121; —, as earth and first-day glyph, 121; —, its eye with flap, 121 f.; —, four circles above conventionalized jaw of, 122; —, plants growing out of, 122; —, dead person in, 122; —, *tekpāt* on, 122; —, double, 122; —, marks, *Miktlantekutli*, etc., 122; —, steps and descent into, 122 f.; and *Tonakatekutli*, 123; —, as earth from which maize springs, 123; —, descent and marks, 123; —, cult connected with *Šočipilli*, *Tlalok*, etc., 123; —, with first human pair, 123; —, marks, on priests, 123; —, on vases, 123 f.; —, glyph schematized, 124; —, not so common in Maya codices, 124; —, Mayan, identical with Mexican, 124; —, as *imiš* "barbed animal," 124; —, as crocodile on Mayan monuments and in walls, 124; —, transformed, into lizard, 124; —, into armadillo, 124; —, due to philological speculations, 124 f.; —, and armadillo merged, 125; —, as synthetic animal in deer in Codex Tro-Cortesianus, 125; —, its other transformations, 125; its other versions of deer-crocodile-armadillo, 125 f.; —, descent, in Mayan codices, 126; —, vase-like transformations of, 126; —, fish-like transformations of, 126; —, shorthand form of, 126; —, conventionalized, with shells, 126; —, and descent, 126 f.; —, marks and Negro, 127; —, sparks, 127; —, marks on *Čak*, 128; —, its chief divinity—*Kimi*, 128 f.; —, sign within the shell, for *Kimi* "completion, twenty," 129; —, as Second Lord and "two," 133.

Šipe, and gladiatorial sacrifice, 139 f.

Sitlallatonak, 77.

Šiuhtekutli, and its etymology, 74 ff.; —, as God of Fire, 78; —, transferred to the sky, 79; —, and morning prayers of traveling merchants, 79 f.; —, and the scorpion, 81 f.; —, and *Yakatekutli*, 82; —, Chief God, 83; —, as First Lord, 131.

Sky, connected with fire from heaven, 50; —, and Tableau, 51 f., 54; —, and Aquarius in Africa, 59; —, and *Tlalok* and the water jar, 59.
 Snake, and *Tlalok*, 56. See *Ketsalkowatl*.
Sočiketsal, 77, 123.
Sočipilli, 77, 97, 121, 123.
 Sousa, S. de, 196.
 South, and *Witsilopočtli*. See *Teskatlipoka*.
 Spinden, H. J., 167 ff.
 "Spindle," its etymological history, 107 ff.; —, and maize, 109 ff.
 Stapleton, W. H., 23.
 Sun, its five stages, in Aztec, 50; —, and jaguar, 107 f. See *Siuhtekutli*, *Tonatiuh*.

T

Tableau of the Bacabs, and rain, 51 f., 54; —, and moon, 55.
Teksistekatl, and obsidian knife and hare, 54; —, and moon, 68 f.; —, and mother-of-pearl, 93. See Moon, Obsidian knife, Pearl.
Tepeyollotli, 139.
Teskatlipoka, and virgin birth, 69; —, the dim light that shines in the night, from the Quran, 69 f.; and obsidian knife, 70; —, and north, 70; —, interchanging with *Ketsalkowatl*, 70 f.; —, and the One God, 71; —, in *tonalamatl*, 78; —, or *Itsili*, of the crossroad, 86; —, and the iguana, 86; —, and north-south direction, 88; —, and virgin birth, 93; —, as Tenth Lord, 131.
 Throne, and jaguar skin, 140.
Tlačko, African origin of, 88.
Tlakašipewalistli, 139.
Tlalok: —, its etymology connects it with Maya *luq* "mud" and Nahuatl *oloni* "to run like water," 48; —, with the "fire" sign, 53; —, with imbricated sun symbol, 54; —, with snake, 56; —, with bundle of arrows, leading to confusion of "rain, lightning" with "war," 56; —, his chief characteristic the glyph *atl*, 57; —, with beard and fangs, 57 f.; —, leads to glyph *kiawitl*, 58; —, his full-face form of later origin, 58; —, on water jars, 59; —, pouring water from jar, 59; —, and *atl-tlačinolli*, 59 f.; —, and maize stalk on shark-like animal, 121; —, with *sipatli* marks, 123; —, in the center of the Tableau, 132; —, as the Eighth Lord and number "eight," 134; —,

and *Tonatiuh* confused, 134; —, in connection with *Tlawiskalpantekutli*, 141.
Tlalokantekutli, 131.
Tlattekutli, 131.
Tlasolteotl, 123, 125.
Tlawiskalpantekutli, 131, 134, 136, 141.
Tonakasiwatl, 77, 131.
Tonakatekutli, history of, 74 ff.; —, its etymology, 76; —, God of everything that grows, and changed into *Sočipilli*, etc., 76 f.; —, and *sipatli* marks, 123; —, as Seventh Lord, 131, 134. See Provider.
Tonalamatl, 50, 52. See Tableau of the Bacabs.
Tonaleke, 131. See Five.
Tonatiuh, 50, 77, 131.
 Traders', presence in Northwest before Lewis and Clark, 13; —, path from Nubia to West, indicated by "ten" in Peul, 20; —, jargon among half-breeds in Africa, 24; —, routes and Mande *lingua franca*, 25.
 Travel, and fire, in Western Sudan, 79; —, and scorpion, 80; —, and Negro in America, 102.
Tsopilotl, its etymology and relation to "sting" and "wine," 100; —, and *Koskakwauhtli* and Negro who took to making of wine, 102; —, Negro, story of, in Codex Tro-Cortesianus, 103; —, in Codex Dresden, 103 ff.; —, and Bee God, 125 ff.
Tun, Mande "heap" word, from Arabic 'arram, and related to "five," 33; —, leading to Malinke *tugu* "to make a knot," etc., 33; —, leading to Bantu *-lanu* "five," *tung-* "heap," etc., 33 ff.; in Mayan glyph for "twelve," where we also have the quincunx, 134 f.; —, in Nahuatl *tonaleke* "five gods," 135; —, in head-dress of "five," 135; —, its fuller history in Western Sudan, 143 f.; —, as *tu*, *tuk*, *tsuk* "heap of twenty," Mayance, 144; —, in Maya *hotu* "one heap" leads to *ho* "five," 145; —, leads to Pokonchi, Kekchi *tuk* "heap of forty" and to Huasteca, Ayook "one," 146; —, contaminated in Nahuatl by Mande *don* "day" and leads to *tonalli* "sun," etc., 146; —, leads further to Mayance, Nahuatl "heap of stones, stone," 147; —, as *tsuk* "division" in Maya, 149; —, evolution of its Mayan glyph, 154; —, relation of its Mayan glyph to the sun and jaguar-skin heap, 154; —, etymologically confused in Nahuatl with "sun" and "abundance," 155; —, its original meaning in Maya and Nahuatl that of "heap," 155; —, its relation to stone worship among the

Mandes, 156 f.; —, in Maya an abstract unit, designating "stone," not "year," 171; —, leads to chronology only if there was no interruption or change in the placing of five stones a year, 172.

Turkey and *Koskakwauhtli*, 104.

Turtle, and "rain" in Aztec and Maya, 42.

Tutulxiu, of the Maya chronicles, as "the four years," 149 f.; —, slain by the *Kokoms*, 160 ff.; —, other accounts of the, 163 ff.; —, refers to *Ketsalkowatl* at Mani, 165.

Twin, and circumcision, 29. See Gemini, Two.

V

Venus, and jaguar, 141; —, and epagomenal days, 142. See *Tlawiskalpantekutli*.

Versions, multiple, in Mayan codices, 105.

Virgin birth, and pearl, in Syriac, 65; —, and *Ketsalkowatl*, 67; —, and moon, 68; —, and *Teskatlipoka*, 69.

Vulture, see *Koskakwauhtli*.

W

War, and rain and lightning, in Aztec, 56; —, and *Tlalok*, 56, 60.

Water: —, its philological history in Mayance, Nahuatl, etc., 38; —, as "bathe," borrowed in Mayance from Nahuatl, 38; —, in Uto-Aztecan, 38 f.; —, its phonetic development schematized, 39; —, in Nahuatl develops "to throw," 39; —, leads to "brain, to swarm, terrestrial paradise," 39 f.; —, strengthened by *ki-*, in Nahuatl develops "violent rain" and is taken over in Mayance, 40; —, strengthened by *pa-*, leads in Nahuatl to "violent rain," 40; —, from Nahuatl *tauht*, leads to Mayance, Ayook *toh* "rain," 41; —, from Nahuatl *moyawa* "to make water turbid," leads to Mayance, Ayook "wet," and, from Nahuatl *tlamoyawa*, to "sink, deep" words in Mayance and Ayook, 41; —, the connection, in Nahuatl and Mayance, of "rainbird" with "rain" and, 41 f.; —, intensified in Nahuatl *kiawitl* "rain" and "throw" words, and transferred to Mayance and Ayook, 42; —, in its intensified form *pakiawi* "to rain incessantly," transferred to Maya, 42; —, its connection with "dog" and "turtle" in Mayan, Huasteca, and Zapotec, 42 f.; —, and the relation of *Tlalok* to it, 48; —, through Nahuatl *moloni*, Maya *mol*, *mul* words, leading to Maya *muluk*

"rain," 48; —, its representation, in Nahuatl *atl*, as cloud digits with circular drops, 49; —, merged in native conception with "sky, sun, fire," 50; —, its drops changed in Aztec, for etymological reasons, to shells, 51; —, as Nahuatl *atl*, not original meaning, 51; —, represents rain from the sky, in all its etymological confusions with "shell, dog, rainbird," etc., 51 f.; —, as represented in Codex Fejérváry-Mayer, 52; —, here changed, as a glyph, to a bird or hand, and often contains the shell, 52; —, in the other codices not much different, except in Codex Bologna, where it has the "fire" sign, as in *Tlalok*, 52 f.; —, in Mexico connected with the moon, 53 f.; —, and the hare, in Aztec representation of the moon, 53; —, in Arabic concept, 53; —, and obsidian knife, in Aztec representation of the moon, 54; —, and Tableau of the Bacabs, in moon representation, 54 f.; —, as glyph *atl*, becoming *Tlalok's* eye and teeth, 57; —, in Mayan representation identical with Mexican, 84 f.; —, its Mayan connection with the shell, digitate formation, curly surface, as in Mexico, 84; —, as *muluk*, identical with *atl*, 85; —, as the water-eye of the gods, 85 f.; —, and iguana connected with the moon in Mande, Mexican, and Mayan conceptions, 86; —, in Mayan representation of "month, twenty," 88 f.; in Mayan representation of "zero," due to Mexican homonymy, 89.

Water jar, in Arabic astronomy, 59; —, and *Tlalok* and *olin*, 59. See Aquarius.

Watt, G., 110.

Winal, see Twenty.

Winds in Quran and Qazwini, 62; —, and *Ketsalkowatl*, 62. See *Ketsalkowatl*.

Wine, in America of African origin, 101 f.; —, and "sting" words, 101 f., and *Koskakwauhtli* glyph.

Witsilopoçtli, connected with the south, 71, 73.

Y

Yakatekutli, and *Ketsalkowatl*, 67; —, from wrong etymology, 82; —, and *Siuhstekutli*, 82 f. See *Siuhstekutli*.

Yowaltekutli, 131, 165.

Z

Zumarraga, 160, 166.

THREE HUNDRED COPIES
OF THIS BOOK HAVE BEEN PRINTED
UNDER THE DIRECTION OF CARL PURINGTON ROLLINS
OF THE YALE UNIVERSITY PRESS
IN FEBRUARY 1926

C# 090076480

